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Original Articles

SANITATION OF THE TROPICS WITH SPECIAL REFERENCE TO MALARIA AND YELLOW FEVER *

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ANCON, PANAMA

If we go back to the year 1898 and consider the point of view of Europeans and their American descendants about to enter the tropics, yellow fever to them was by far the most dangerous disease with which they were likely to come in contact. I am referring now principally to the American tropics, as yellow fever affected principally this region. And this was particularly the case when it was intended to send large bodies of non-immune persons, such as our army of occupation in Cuba. Yellow fever had caused more disaster to military expeditions going to these tropics than had all the other tropical diseases put together, and it had been equally fatal to non-immune individuals in civil life. Our military surgeons, therefore, in their sanitary recommendations considered more particularly this disease.

Yellow fever frequently affected the southern portions of the United States, and military surgeons were very confident of their ability to manage it as it affected small bodies of troops, such as were stationed in the southern portions of the United States. While they knew that they could not eradicate it from a locality in which it had taken hold, their experience had taught them that by marching a small command a few miles out into the country this command would be entirely safe for a considerable length of time. This was the only measure that they knew of at that time whereby considerable bodies of men could avoid this fatal disease; that is, they could move away from the infected locality and would not carry the infection with them.

With a considerable army in active military operations, however, this method can not always be carried out, as military necessity would frequently require the army to remain in the infected locality. For the above reasons the Army Medical Corps at this time concentrated its attention on the prophylaxis of yellow fever. For two years the sanitary authorities tried by all then known sanitary means to free Havana from yellow fever. Havana at that time was properly looked on as the center from which yellow fever frequently spread to all the neighboring regions in North, Central and South America. Yellow fever had never entirely disappeared from this city for a hundred and fifty years previous to this time. Non-immune population coming in all the time furnished sufficient fuel to keep this disease constantly active.

By February, 1901, we found that after two years of steady sanitary work we had made no impression on yellow fever in Havana. Instead of this disease decreasing, we found that it had rather increased as the non-immune population increased. A board of army medical officers had been especially detailed for the investigation of this work. They did a great deal that bore no particular fruit, but they finally found that Dr. Carlos Finlay, a distinguished physician of Havana, had been maintaining for the previous twenty years that a particular mosquito, the stegomyia, transmitted yellow fever from person to person. They took the matter up, experimented on human beings who volunteered for this purpose, and proved that yellow fever was transmitted in this way and probably in no other way. I think this work, as conceived by Dr. Reed, the chairman of this commission, is the most mathematically convincing experimental work ever carried out on a medical subject. The results were announced in the spring of 1901 and have since been accepted by all the scientific world. The sanitary authorities of Havana at once instituted measures based on this knowledge obtained by the Army Medical Board, and in less than a year yellow fever was entirely eradicated from Havana. Since that time the same measures have been tried at other places, and sufficient success has been attained to establish these measures as the routine to be adopted in freeing a municipality from yellow fever.

We have been equally successful in freeing the city of Panama, the city of Colon and the Canal Zone from yellow fever, although it was rife here when we came, and although we have introduced some 30,000 non-immunes from the United States since that time. In order to make our methods clear I will describe what I would consider a model organization for caring for a municipality of that size. Mind you, I am describing a model organization, not what we have, but what we would like to have. We have succeeded in getting yellow fever out of Panama, but it could have been done much more expeditiously with a better organization. I write this description for the benefit of men who are undertaking municipal sanitary work of this kind. I think it advisable to always try to get the very best, and then to go ahead and do all one can, on the best that one can get.

The stegomyia, the mosquito which transmits yellow fever, is a mosquito which infests cities and towns and the dwelling-houses of man. It breeds principally in rain-water barrels, cisterns, wells, house gutters, etc. Therefore, the chief work of sanitation would be done from the urban centers, through the municipal sanitary organization.

The first thing in undertaking such a work is to get the necessary funds, and to establish some system of account-keeping which will both protect the officer disbursing the funds and not be too cumbersome in admin-

* Paper read before the Fourth Pan-American Scientific Congress, Dec. 25, 1908, Santiago, Chile.

istration. The next step is to get the authority necessary for enforcing the sanitary measures. To this end I would have an ordinance passed declaring it a nuisance for any property owner to have on his premises any mosquito larvæ, and prescribe a fine of from $5 to $10 for such offense. The sanitary officer should have powers, as far as these sanitary ordinances are concerned, such as the alcaldes of most Latin-American municipalities have. This would give the sanitary officer the power of assessing the fines or of revoking them at any stage of the proceedings. The fine should be collected through the courts, but the sanitary officer should be officially informed by the judge when the fine is collected, and also by the treasurer when the fine has been deposited in the treasury. In this way he can keep control of all the steps in the process.

Another ordinance should be passed giving the sanitary officer authority to abate these nuisances himself with his own force when they have not been abated by the owner of the property after a week's notice, and providing that the cost of such work be made a lien against the property, which cost is to be collected through the courts against the owner of the property. This is a very important measure, as it enables the sanitary officer at no great public expense rapidly to carry into effect his sanitary measures himself when the people affected are slow in executing the measures ordered.

A third ordinance should be passed directing that all cisterns, wells, gutters and water collections likely to breed mosquitoes must be either abolished or so screened and cared for that mosquitoes can not breed in them. With these three ordinances the health officer can rapidly get his community in such condition that very few stegomyiæ can breed, and the locality will soon be in such condition that there will be so few stegomyiæ that yellow fever can not spread.

The municipality should then be divided into inspection districts, each district to contain about 600 houses. An intelligent inspector should be placed in charge of each one of these districts and required to make a written report on every house in his district once a month concerning its sanitary condition. (An intelligent inspector should readily inspect twenty-five houses a day on the average.) His report should show the condition of the houses and premises, more particularly with regard to mosquito breeding places; how many receptacles actually had larvæ; how the barrels and cisterns were with regard to the screening; how the gutters were with regard to containing water, and as to whether there were other receptacles on the premises which were likely to breed mosquitoes. This report should go to the office daily, and the health officer should base his action thereon. The health officer should notify the owner of the premises to correct the nuisance reported by the inspector, and if on reinspection, which should be made at the end of the week, the nuisance was found to be still unabated, then the health officer should send his "cleaners" around who should clean up the premises. The inspector in charge of the cleaning squad should keep an accurate account of the expenses and this should be charged up against the property owner. If cisterns, barrels, etc., needed screening, gutters repairing, etc., the general carpenter should go around with his squad, put the property in good condition, keep an accurate account of his expenses, and charge this to the property owner. If it is a suburb of the town, and ditching and draining is needed, the health officer should send the inspector in charge of the draining squad out, who should see that the necessary ditching is done, rendering an account of his expenses and charging this against the property owner. For this phase of the work, then, the health officer should have a very intelligent man as inspector, at the rate of one to every 600 houses; a good inspector with a sufficient number of men to do the general cleaning up; an intelligent foreman carpenter in charge of a sufficient number of carpenters to do the necessary screening of cisterns, barrels, etc. All receptacles should be fixed by this squad so that they can not breed mosquitoes. Cisterns should be thoroughly covered and the hole that is left for the water to enter should be screened so that mosquitoes can not gain access to the cistern. Water barrels should be covered in the same way and a cheap wooden spigot placed near the bottom. Gutters should be so fixed that they will not retain water. If a general water supply can be introduced into the city the matter is much simplified, as then all receptacles for storing water can be done away with.

Such an organization, in my opinion, is all that is essential for yellow fever prophylaxis. While street cleaning, garbage collection, caring for night soil, etc., are very useful adjuvants to the general health and good appearance of the municipality, they have no direct bearing on yellow fever, and the people of a poor community, that had little money to spend, would be entirely justified, I think, in adopting the organization outlined, with the idea of keeping it up for a year or two, freeing their locality from yellow fever, and considering the other municipal work mentioned at some future time when they would be better able financially to carry it out.

The actual cost for a small municipality of about 600 houses, with an approximate population of 3,000 people, would be as follows:

	Monthly Salaries.
1 Health officer	$400
1 Clerk	125
1 Sanitary inspector	125
1 Chief carpenter	125
1 Head cleaning squad	125
1 Head ditching squad	125
20 Laborers at $30	600
Material	275
Total	$1,900

These are maximum figures and would probably not be paid under ordinary circumstances. They are based on the rates and salaries that at present prevail at Panama.

In addition certain measures should be carried out looking to the caring for the sick. An ordinance should be passed requiring all yellow fever suspects to be reported at once to the health officer. As soon as a case is reported the health officer, if he considers it yellow fever, should have the patient isolated at once, either by being sent to the hospital, which hospital should be carefully screened, or he should have the room where the patient is lying screened. I think it best to leave this to the choice of the patient. If the patient elects to stay at home the screening should be so done that there would be only one door of entrance, and this door should be guarded by a watchman of the sanitary department whose duty it is to see that no one has access to the patient except those authorized by the health officer; this with the object of seeing that non-immunes do not go and come.

After the case has terminated the building occupied by the sick person, and the contiguous buildings, should be fumigated with some good insecticide. I prefer sulphur wherever possible. Where sulphur can not be used I recommend pyrethrum. It is very important that the man at the head of affairs should have a thorough knowledge of the details of all these matters. He should know whether the screening is properly done; when fumigating, whether the pasting has made the building sufficiently tight, etc. It requires considerable experience to become expert in all these details, and a mere theoretical knowledge is at first not of much avail.

For the small community, above described, these measures of caring for the sick and destroying infected mosquitoes need not add to the force. The health officer himself would have plenty of time to look after the sick. The chief carpenter with his squad could do the screening, and the inspector in charge of the cleaning squad could do the fumigating.

The relative cost would, of course, decrease as the size of the municipality increased. Take a municipality ten times the size of the one described, with a population of about 30,000 people, who would live in some 6,000 houses. The personnel would be increased about as follows:

	Monthly Each.	Salaries. Total.
1 Health officer	$400	$400
10 Sanitary inspectors	125	1,250
2 Clerks	125	250
1 Chief carpenter	125	125
2 Carpenter foremen	75	150
1 Head of cleaning squad	125	125
4 Foremen	75	300
1 Chief of ditching squad	125	125
1 Foreman	75	75
60 Laborers	30	1,800
Material	400	400
Total		$5,000

Here you see that our unit of 600 houses, instead of costing $1,900 per month, would cost only $500 per month, and, of course, as the municipality increases in size the cost per unit would continue to decrease. In this estimate for a large municipality I am not including the cost of care of the sick, as the municipality of this size would necessarily have some hospital in which the sick would be cared for.

In the municipality the same measures that are directed against yellow fever will avail against malaria. This has occurred in Havana, Cuba. The anti-mosquito work done there in the past ten years has practically eliminated malarial fever. The deaths from malaria prior to 1896 averaged about 250 per year. This has gradually fallen until in the last year or two they have had less than fifty deaths per year. In a city situated as is Havana, this, I think, means the extinction of malaria. The fifty deaths occurring every year at present in Havana, due to malaria, are probably caused by the persons affected by malaria who come in from the rest of the island. Havana is the metropolis of Cuba; all the large hospitals are located there, and a great many people, whenever taken sick, come in from all parts of the island to these hospitals for treatment. In the ordinary course of affairs a large number of malaria patients come into the city from the rest of the island in connection with their routine business.

Great strides in diminishing the spread of yellow fever all over the world have been made in the last ten years. Ten years ago the four principal centers of yellow fever in the world were Vera Cruz, Havana, Rio Janeiro and Guayaquil. Of these Havana and Rio Janeiro were much more important centers of infection than Vera Cruz and Guayaquil. From Havana yellow fever has practically been eliminated, and within the last six months Rio Janeiro has been almost as successful. In Vera Cruz yellow fever has become sporadic instead of being endemic. Sporadic cases within the last year have occurred in several different parts of tropical America, and a few on the west coast of Africa, but nothing comparable with what it was ten years ago. It seems to me that yellow fever will entirely disappear within this generation, and that the next generation will look on yellow fever as an extinct disease having only a historic interest. They will look on the yellow fever parasites as we do on the three-toed horse—as an animal that existed in the past, without any possibility of reappearing on the earth at any future time.

Concerted effort on the part of the countries in which it now occurs, I think, would extinguish the disease at once at no very great expense and without undue labor. I believe that if this congress could get the governments of the various countries in which yellow fever has occurred during the past year to agree to keep such an organization as I have outlined, which could be sent at once to the locality where yellow fever appears, and there stamp it out, at the end of two years yellow fever would have disappeared from the western hemisphere.

THE FUNCTION OF THE END-ORGANS IN THE VESTIBULE AND SEMICIRCULAR CANALS

AND SOME METHODS FOR EXAMINING THESE CANALS IN PRACTICAL DIAGNOSIS

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CHICAGO

In order to understand the disturbances in function arising from the diseases of the vestibule and semicircular canals, as well as the principles involved in diagnosing these conditions, it is necessary that one keep clearly in mind a few fundamental facts in regard to the anatomy and the physiology of these structures.

Only a few years ago physiologists looked on the internal ear as a mechanism that had to do solely with the function of hearing. This function they assigned to the three parts of the labyrinth as follows: To the end-organs in the cochlea was attributed the function of tone perception; to the end-organs in the vestibule the function of noise perception, and to the semicircular canals was attributed the function of determining the direction from which sound comes.

The more recent studies of the internal ear justify the conclusion that the cochlea alone is interested in sound perception, whether this be in the nature of noises or musical tones, and that the end-organs in the vestibule and semicircular canals have to do with the important function of preserving the equilibrium. This latter function is accomplished by these several end-organs as follows: From the vestibule we get our knowledge of position in space; from the semicircular canals our knowledge of turning motions. The data derived from these two sets of end-organs seems to be sufficient to account for the function of equilibrium.

The function attributed to the vestibule is accomplished as follows: There are located in the vestibule two end-organs, identical in structure, but placed on

planes at right angles to each other. These are the so-called macula acustica of the utricle and the macula acustica of the saccule. These end-organs consist of a large number of hair-bearing cells. The hairs from these cells project into a superimposed jelly-like structure, in which there is imbedded a large number of small crystals of oxalate of lime, called otoliths. The otoliths give to this otolith membrane a specific gravity slightly greater than the surrounding endolymph. These end-organs in the vestibule perform their function of giving us our idea of position in space as follows: Placed at right angles as they are to each other, with each change in the position of the head, the otolith membranes, owing to their greater specific gravity, either press or drag on the hairs of the underlying hair cells in such a way as to produce a different kind of stimulus for each different position assumed.

The semicircular canals are three in number and occupy approximately the three planes in space. Each canal is provided with an expansion at one end, called the ampulla. In this ampulla is located the end-organ for the canal, which is constructed as follows: A ridge from the outer wall projects into the space of the ampulla and is covered with the hair-bearing neuroepithelium. This ridge is known as the crista acustica ampullaris. Capping the ridge is a peculiar elastic structure, called the cupula, with the under surface of which the hairs of the hair cells come in direct contact. This entire apparatus is so arranged that any motion in the endolymph of the semicircular canal must impinge directly against this cupula and tends to bend it over in one direction or the other. A turning motion of the head in any plane whatsoever must necessarily result in a motion of the endolymph in one or several of these semicircular canals, thus producing a stimulation of the hair cells in their respective ampullæ.

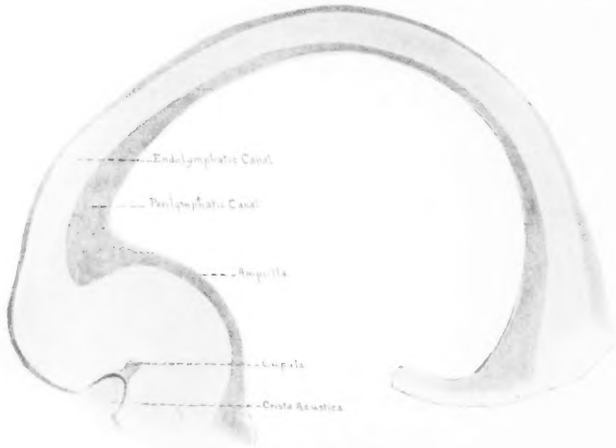

Diagram of horizontal canal.

In order to get a clear idea of the physiology of the semicircular canals we have but to attach to the inside of a bucket filled with water a tuft of elastic hairs. Let this tuft represent the cupula placed over the crista acustica of the ampulla, then a bending over of this tuft in either direction would constitute a stimulation of the underlying hair cells of the crista ampullaris. If now the bucket is rotated very slowly the water will be able to take on the motion of the sides of the bucket, and the tuft of hair will not be bent over, and there will result no stimulation of the hair cells. When the bucket is rotated more rapidly the tuft will be bent backward in a direction opposite to the motion of the bucket, being carried back by the water which does not, for some time, take on the motion of the turning bucket. If, however, the turning of the bucket is kept up long enough the water will finally be turning just as rapidly as the bucket itself, and again the tuft of hairs will project straight out into the water and will not be bent to either side. If the bucket is suddenly stopped the water will continue whirling for some time, and the tuft will now be bent over again, but this time in the same direction as that in which the bucket was being turned.

After witnessing this demonstration with the turning bucket of water one can readily understand the following phenomena that present themselves when a person is placed on a rotating chair: If the chair is rotated very slowly no sense of turning is experienced, provided the eyes are closed, for the reason that the endolymph in the semicircular canals takes on the motion of the walls of the canal and the cupula is bent neither this way nor that. If the turning is more rapid a sense of turning is readily experienced, at the same time a reflex eye symptom will become apparent. This is a nystagmus, increased when the eyes are turned in the direction of the rotation. In case the whirling continues long enough the person will lose all sense of turning and the nystagmus will cease, for the reason that the endolymph in the semicircular canals takes on the motion of these canals and the cupula is not pressed on, and so can not stimulate the hair cells. On stopping suddenly the individual will immediately experience vertigo and the nystagmus will return, but now it will be directed to the side opposite to the turning, just as would be expected from an observation of the experiment with the bucket of water. With the rotating chair it is possible to demonstrate that there is destruction of the semicircular canal apparatus such as occurs in epidemic cerebrospinal meningitis. In these cases neither vertigo nor nystagmus can be produced by turning, and such persons do not experience seasickness.

Besides this experiment of the rotating chair there are several other methods of examining the semicircular canals; two of these methods are dependent on the production of a motion in the endolymph in the canals.

In 1892 Ewald performed the interesting experiment of making a small opening in the horizontal canal of the pigeon, into which he fixed a small canula, and found that when pressure was exerted on the fluid in the canal by compressing a rubber bulb attached to the canula, marked nystagmus was readily induced. This experiment is successfully used in diagnosing the presence of an opening into the labyrinth such as sometimes occurs by erosion in cases of cholesteatoma. All that is required in these cases to produce vertigo and nystagmus is to compress or rarefy the air in the external meatus.

The third method of examining the condition of the semicircular canals is that recently elaborated by Barany of Vienna. This consists of the production of a motion in the endolymph of the semicircular canals by chilling or warming the part of the capsule of the labyrinth exposed in the tympanum and antrum by syringing the external canal with cold or with warm water. The motion in the endolymph produced by syringing the ear with cold water will, of course, be just opposite to that produced by syringing with warm water. Using water at the temperature of the body will naturally produce no motion in the endolymph. The stimulation of the semicircular canals by means of hot or cold water

will be much more readily obtained in cases in which a large perforation of the membrana tympani permits the water to come into direct contact with the wall of the labyrinth. This stimulation is also the more readily obtained by using water quite warm or quite cold. The force of the stream has naturally no influence on this stimulation.

The study of the occurrence of vertigo and nystagmus, both that observed in disease of the labyrinth and that brought on by syringing the ear with hot and cold water, has established the following facts, which are of great assistance in diagnosis not only of the labyrinth but of the cerebellum as well:

1. If the semicircular canals are normal and the ear is syringed with cold water, vertigo will result, and there will be set up a nystagmus increased by directing the eyes toward the opposite side. If the ear is syringed with warm water the same symptoms will occur, but the nystagmus will be toward the same side.

2. Should there exist an irritation of the endings of the vestibular nerve in the labyrinth, such as may be occasioned by a circumscribed suppuration in the labyrinth, there will be spontaneous nystagmus directed toward the same side. Syringing the ear with cold water will produce a positive reaction.

3. If there occurs a sudden destruction of endings of the vestibular nerve, such as would be occasioned by a diffuse suppuration in the labyrinth, there will be set up a spontaneous nystagmus directed toward the opposite side, but lasting only from a few days to several weeks. This nystagmus has its origin in the opposite normal ear. Syringing the affected ear with hot and cold water produces no response.

4. In case of long standing destruction of the nerve endings in the vestibular nerve, such as occurs in chronic diffuse labyrinth suppuration, there will be no spontaneous nystagmus and no reaction can be obtained by syringing the ear with hot or cold water.

5. In case of cerebellar disease, such as cerebellar tumor, cerebellar abscess or a meningitis in this locality, there will occur a spontaneous nystagmus directed toward the affected side.

It follows, therefore, that in case there exists pronounced rotating nystagmus, and the membrana tympani is normal, showing an absence of an inflammation in the middle ear, the presence of a cerebellar tumor should be suspected. On the other hand, should there exist pronounced spontaneous rotating nystagmus in a case of suppurative otitis media without fever, but with severe deafness, and this nystagmus is directed toward the affected side, while the syringing of the ear with cold water produces no response, the diagnosis of a cerebellar abscess is the probable one. Here the complete destruction of the hearing in the affected ear would indicate a probable diffuse suppuration of the labyrinth. The failure to get the caloric response on syringing points to destruction of end-organs in the semicircular canals. The only spontaneous nystagmus which this lesion could produce would be directed toward the opposite side. The absence of rise of temperature would in most cases eliminate a meningitis as the source of the nystagmus, while a cerebellar abscess pressing on the vestibular nerve could produce a spontaneous rotating nystagmus, which would be increased by directing the eyes toward the affected side.

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INTESTINAL LOCALIZATION

WITH CERTAIN OTHER SUBJECTS RELATING TO THE SURGERY AND SURGICAL ANATOMY OF THE SMALL INTESTINE AND ITS MESENTERY

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This article is, with a few changes, the text of a demonstration on the cadaver which I gave in Boston, May 1, 1908, by invitation, before the Society of Clinical Surgery. The subjects considered have little to connect them, except that all of them relate to the surgery, or to the surgical anatomy, of the small intestine and its mesentery. The procedures described are taken mostly from cadaver studies which I have made from time to time. Some of these studies have already been published at greater length in former articles.[1] The object of the present article is to present, in a form as condensed and practical as possible, some of the procedures with which these studies were concerned. An effort has been made to elucidate the text by a free use of illustrations—a method which, useful as it may be in many instances, is unfortunately not wholly satisfactory as a substitute for actual demonstration.

Fig. 1.—Diagram showing on the abdominal wall a surface marking, which corresponds approximately with the root of the mesentery. (This diagram and the next one are taken from a former article, but a different figure has been used.)

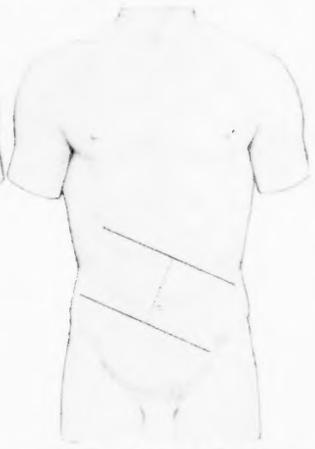


Fig. 2.—Diagram showing on the abdominal wall three oblique lines. The dotted line (the same as already shown in Fig. 1) corresponds approximately with the root of the mesentery; the two heavier lines indicate the division of the abdominal cavity into thirds.

While some of the procedures described have repeatedly been employed with success in operations, others—which have not been used in operations—are presented merely as procedures which, from an anatomic point of view, are possible. Others, again, are simply anatomic demonstrations.

THE MESENTERY

As the mesentery will frequently be referred to in this article, it is desirable at the outset to make a few general remarks about this structure, especially in regard to its root, its shape, and the disposition of its different parts.

The Root of the Mesentery.—The part of the mesentery where the vessels enter is, as pointed out by Treves,

1. Intestinal Localization, Ann. Surg., October, 1903; Studies in the Surgical Anatomy of the Small Intestine and its Mesentery, Ann. Surg., October, 1905; Experiments in Flushing the Intestinal Canal with Salt Solution Through Multiple Enterotomy Openings, Ann. Surg., June, 1908.

the real root of the mesentery. For the reason, however, that the mesentery is attached to the back part of the abdominal cavity for about six inches below this point, the term "the root of the mesentery"—in practice, at least—is usually considered to include the six inches of attachment. This root lies obliquely in reference to the spine, and, as shown in Figure 1, can be marked out with a fair degree of accuracy on the abdominal wall.

The Shape of the Mesentery and the Disposition of Its Different Parts.—Though the root of the mesentery measures only about six inches, the intestinal border of this structure measures thirty to sixty times as much. This means, of course, an enormous expansion—an expansion which, however, is greatest in the outer third or fourth of the mesentery. It is with this greatly elongated outer border, or "ruffled border"—a term I have applied to it—that the surgeon has most to do.

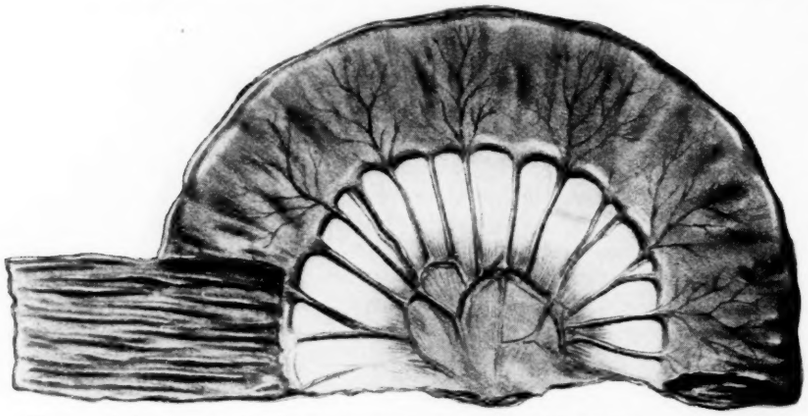


Fig. 3.—A loop, with attached mesentery, from the small intestine of a thin muscular (male) subject. It belongs to the uppermost part of the bowel, as is shown by its large size, its obvious thickness, its vascularity, and by the presence of large and numerous valvulæ conniventes; and also because of the presence of large, long and straight vessels in the mesentery radiating to the gut from arches mostly primary. There is very little fat in the mesentery, and the transparent spaces between the vessels are very extensive.

It is obvious that such a structure as the mesentery, in order that it may be accommodated in the abdominal cavity, must be thrown into many folds—folds which are even more numerous in cases in which the length of the intestine is greater than usual. These folds are, naturally, simplest near the root of the mesentery, where the diameter of that structure from above downward is comparatively little increased. Of these main folds, the first one, arising from the upper part of the mesenteric root, is generally directed to the left side of the abdomen; the one next lower down to the right; while those arising below proceed somewhat indefinitely from the lower part of the mesenteric attachment to both sides of the abdomen and the pelvis. The various coils of intestine, naturally, occupy the same regions as the corresponding parts of the mesentery.

INTESTINAL LOCALIZATION

"Intestinal localization" (a term which I suggested some years ago) means the determination by the surgeon of the part of the intestine to which any given loop, presenting in an abdominal wound, belongs.

In order to make this determination, the surgeon depends principally on two factors:[2]

1. A knowledge in regard to the part of the intestine he is most likely to meet with in a wound which has been made through any part of the abdominal wall.

2. A familiarity with the general characteristics of the intestine in the different parts of its course, and also with the characteristics of the adjacent portion of the mesentery.

1. *The Part of the Intestine Most Likely to Be Encountered in Wounds in Different Parts of the Abdominal Wall.*—Although the intestines may readily change their position, because of any one of a number of causes, and, although they may not be placed in exactly the same way in any two abdominal cavities, nevertheless the different parts of the intestine have their usual lodging-places, and it would seem to be worth while for the surgeon to know where these places are. Now, in a general way, the uppermost third of the intestine usually occupies the large cavity on the left side of the abdomen, high up underneath the ribs; the middle third occupies the middle part of the abdomen and the left iliac fossa; and the lowest third the right iliac fossa and the pelvis. Occasionally a loop from the lowest part of the intestine may be found high in the abdomen, but this is unusual; it is even more unusual for a loop from the highest part of the intestine to lie near the pubes—a statement the truth of which any one may test by attempting, on cadavers, to draw down such a loop.

The three compartments which the different parts of the small intestine usually occupy can roughly be indicated on the surface of the abdomen by means of two lines, drawn at the extremities of the oblique line already shown in Figure 1, and at right angles to it.

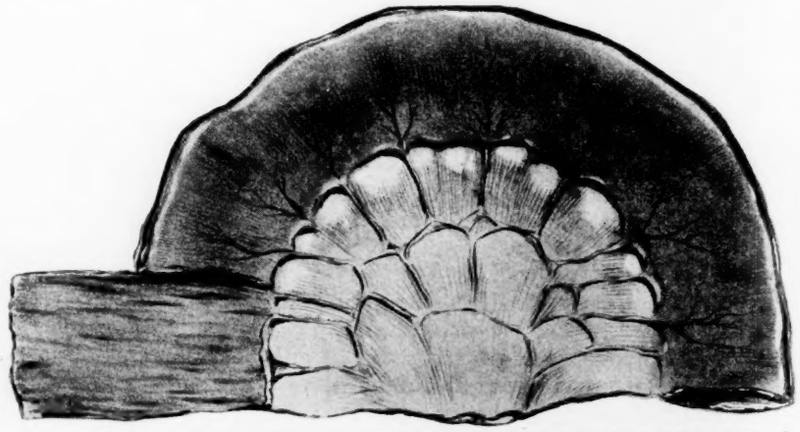


Fig. 4.—A loop, with attached mesentery, from the small intestine of the same subject as shown in Fig. 3. It belongs to the lowest part of the bowel, as is shown by its smaller caliber, its comparative thinness, the absence of vascularity and of valvulæ conniventes; and also by the presence in the mesentery of comparatively short, small and somewhat tortuous vessels which radiate from arches mostly secondary or tertiary. The fat in the mesentery is more abundant than in the specimen shown in Fig. 3, and it approaches nearer to the intestine. For this reason the mesentery here is much more opaque, the vessels are somewhat obscured, and the transparent areas small.

2. The absence of such pathologic conditions as might interfere with the process of localization, here described, is, of course, assumed.

This division of the abdomen into three compartments is shown in Figure 2. Now, speaking generally (for one should not forget that there are occasional exceptions) the compartment above the first line lodges the uppermost third of the small intestine, that between the first and second lines lodges its middle third, and that below the second line its lowest third. The surgeon may, therefore, knowing what compartment his incision has opened up, roughly determine what part of the intestine he is most likely to encounter there. If his incision is in the upper part of the abdomen, especially if it is in the middle line or to the left of it, any loop of small intestine he meets will belong probably to the uppermost third of the intestine; if his incision is in the middle part of the abdomen or in the left iliac fossa, the loops will belong probably to the middle third; and, finally, if his incision is in the right iliac fossa or to the right of the rectus muscle, or even in the median line between umbilicus and pubes, the loops will probably belong to the lowest third of the intestine.

2. *The Characteristics of the Intestine (and Attached Mesentery) in the Uppermost Third of the Bowel Compared with Those of the Intestine (and Attached Mesentery) in the Lowest Third.* — If the surgeon picks up a loop of small intestine which belongs to the uppermost third of the bowel (Figs. 3 and 5) he will notice that it is thick,[3] and that in many cases it feels even "fleshy." Holding it now between the thumb and fingers of one hand, and stroking it downward in the direction of its axis, between the thumb and fingers of the other, he will distinctly feel the valvulæ conniventes, as his fingers pass over them. He will probably observe that the intestine is of large size and very vascular, being covered with numerous branching vessels. Indeed, everything about the loop will probably suggest to him a high degree of physiologic activity of this part of the bowel.

The amount of information which the surgeon will get by an examination of the attached mesentery depends largely on the amount of fat there. If, as one would expect in a thin subject, there is little fat in the mesentery, he will be able to see the blood vessels, to note their characteristics, and thus to get considerable information as to the part of the mesentery he is examining; but, if there is so much fat as to conceal the vessels entirely, he will, for localization purposes at least, not secure very much information, unless, by transmitted light, he is able to get some idea as to the course of the vessels. Luckily, however, the fat is not often present to such a degree as entirely to conceal the vessels (Fig. 5), and they—at least that part of them nearest to the intestine—are usually fairly well defined.

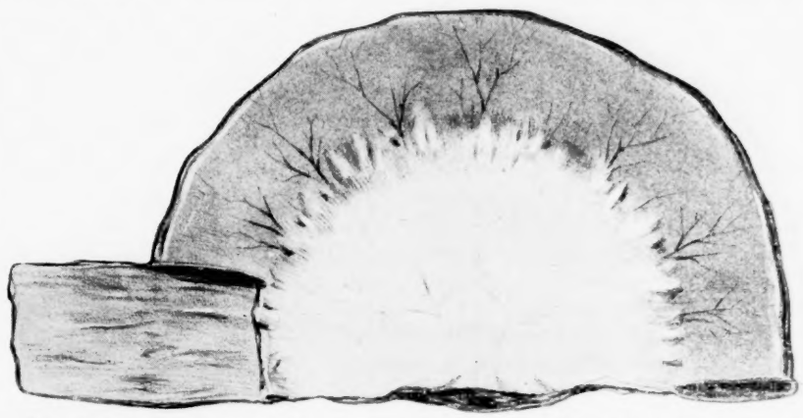


Fig. 6.—A loop, with attached mesentery, from the small intestine of the same subject as the loop in Fig 5. It belongs to the lowest part of the bowel, as is shown by its thinness, its small caliber, the absence of vascularity, and of valvulæ conniventes; also by the fact that the vessels in the mesentery are hidden in a thick layer of fat. Little tabs of fat encroach on the wall of the intestine itself.

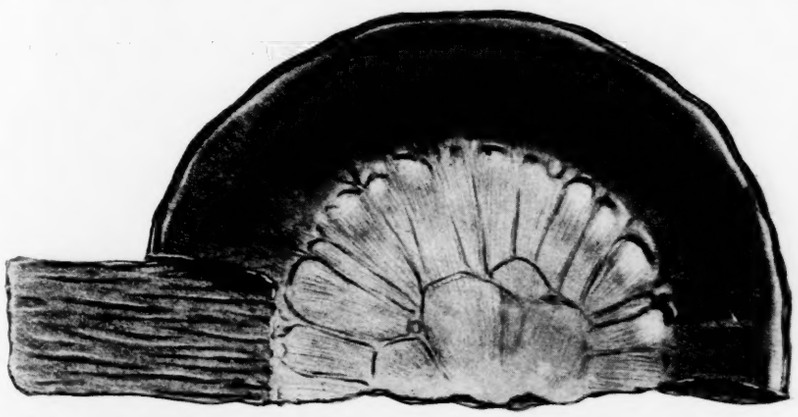


Fig. 5.—A loop, with attached mesentery, from the small intestine of a subject (female), which had less muscle and more fat than the subject which furnished the specimens in Figs. 3 and 4. This loop belongs to the uppermost part of the bowel, as is shown (just as in Fig. 3, though most of the characteristics are less marked here than there) by its large size, its comparative thickness, its vascularity, and the presence of large and numerous valvulæ conniventes; also, by the large, long and straight vessels in the mesentery, which vessels radiate to the gut from arches mostly primary. There is a good deal of fat in the mesentery, and, because of this, the vessels are somewhat obscured, and the transparent areas near the intestine are very small.

In a case, then, where the vessels are visible, the surgeon will probably notice at once that these vessels are large, long and straight and that they radiate from the depths of the mesentery directly to the intestine. He will probably also be able to see, especially if he retracts the edge of the wound, that these vessels arise mostly from primary arches, deep in the mesentery. A few secondary arches may be seen, but these are usually more characteristic of the mesentery opposite lower parts of the intestine. The parts of the mesentery between the vessels will probably be more or less translucent, or, near the intestine, even transparent. These transparent spaces between the vessels appear like little windows, as it were, through which one may look; because of their shape and transparency I have called them "lunettes." Sometimes these little spaces are so small that they can not be seen without firmly drawing up the loop of bowel, when, the mesentery being tense, they can usually be made out very close to the intestine.

3. The word "thick" is used here in a relative sense. It means that this loop of bowel is thick as compared with a loop from the lowest part of the same bowel. Vigorous males would be apt to have a thick muscular intestine, while in less strongly developed individuals, as, for instance, in women, the intestine would be thinner throughout. In any intestine, however, the upper part of the bowel is usually appreciably thicker than its lower part. Most of the other characteristics spoken of are also relative.

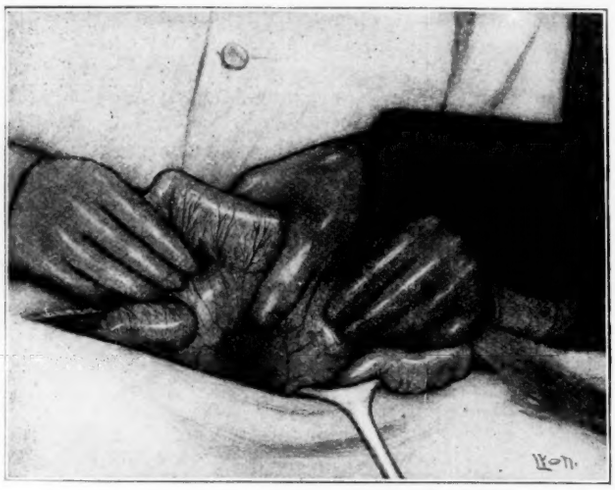


Fig. 7.—A method of determining the real direction of the intestine by palpation of the root of the mesentery.

The liberal supply of large vessels in this part of the mesentery suggests at once to the surgeon's mind that more blood is going to the attached loop of intestine than is necessary for the nourishment of this loop; and, again, the idea of the high degree of physiologic activity of this part of the intestine is forced on his attention. Occasionally the surgeon may be able to see the lacteals in this part of the mesentery; for these little vessels, when filled with chyle, appear as milk-white streaks proceeding, in an irregular course, from the intestine to the deeper parts of the mesentery.

Turning now to a consideration of a loop of bowel—with its attached mesentery—from the lowest third of the intestine, the surgeon sees a different picture (Figs. 4 and 6). This loop of bowel is usually thin, and is generally of a smaller caliber than that of a loop from the uppermost part of the bowel.[4] Few valvulæ conniventes can be felt through its walls, or even none at all. Finally, it is probably less vascular than is the loop higher up in the bowel.

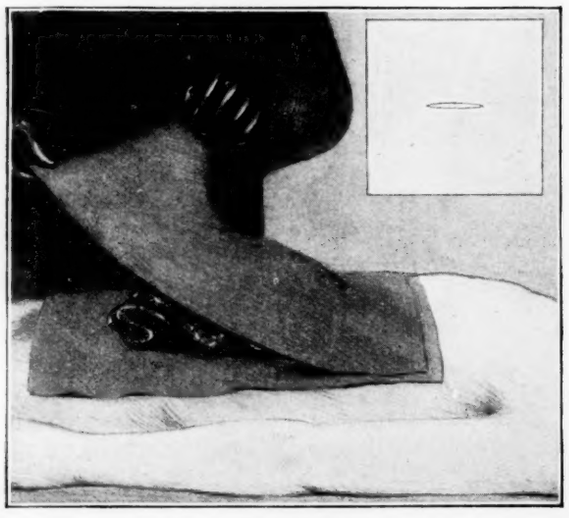


Fig. 8.—Method of using two sheets of rubber tissue for the protection of intestinal coils while they are outside of the abdominal cavity.

The vessels of the mesentery, if they can be seen at all through the fat, are comparatively short, small and often more or less tortuous in their course. If the edge of the abdominal wound is strongly retracted these vessels may, in case the mesentery is very thin, be seen to rise from secondary or even tertiary arches. It is unlikely that the surgeon will see any lacteals in the mesentery opposite this part of the intestine. Everything, in fact, will probably suggest to him a low degree of physiologic activity. This low degree of physiologic activity probably explains why such great lengths of this part of the intestine may be excised without seriously interfering with the nutrition of the patient. Excision of only a few feet of the upper part of the jejunum would probably kill him.

There is almost always more fat in this part of the mesentery than there is in that part of it attached to the upper portion of the bowel. For this reason the mesentery here is much more opaque. Moreover, the fat usually lies nearer to the intestine, a common characteristic of this part of the mesentery being, in fact, that

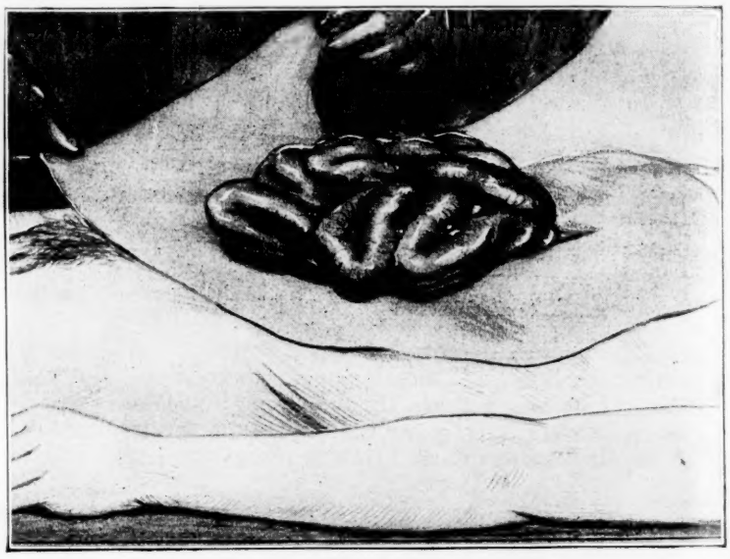


Fig. 9.—Method of using a single sheet of thin rubber tissue for the purpose of protecting the coils of small intestine during the period while they are outside of the abdominal cavity.

little tabs of fat project from it on the bowel itself (Fig. 6)—a condition rarely found in the mesentery opposite the upper part of the intestine, except in subjects with an unusual amount of fat.

Recapitulation.—The distinguishing characteristics, then, of a loop of bowel near the upper end of the intestine, and of the mesentery attached to it, are as follows:

The bowel is usually thick, of large caliber, very vascular, and it contains large and numerous valvulæ conniventes, which can easily be felt through the walls of the intestine. The attached mesentery—if there is not too much fat in it—exhibits large, long, straight vessels radiating to the intestine from arches (principally primary) deep in the mesentery. There may be so much fat in the mesentery as to obscure the vessels, or even to hide them, but ordinarily the mesentery here is likely to

4. One should not forget, however, that, on the living subject, the apparent size of a loop of bowel as well as the thickness of its walls may vary in accordance with its state of contraction or distension. In some cases of chronic obstruction, also, the size of the intestine above the obstruction may be greatly increased, as well as the thickness of its walls.

be thin and to show the vessels, and between them translucent, or even transparent, areas close to the intestine.

On the other hand, the distinguishing characteristics of a loop of bowel near the lower end of the intestine, and of the mesentery attached to it, may be summarized as follows:

The bowel is usually thin, is likely to be of comparatively small caliber, and only moderately vascular; while probably no valvulæ conniventes can be felt through its walls. The attached mesentery has relatively small, short, tortuous vessels, which spring from secondary, or even tertiary loops deep in the mesentery. There is usually more fat in this part of the mesentery than there is in that part opposite a loop near the upper end of the intestine, and, for this reason, the mesentery here is usually thick and opaque and the vessels are obscured, or, in very fat mesenteries, entirely hidden. In many cases little tabs of fat can be seen extending from the mesentery a short distance on each side of the bowel.

Fig. 10.—Method of drawing to one side the small intestine (enveloped in thin rubber) and retracting the abdominal wall on the other side, so as to bring into view the great left fossa of the abdominal cavity.

The characteristic features of the intestine (and its attached mesentery) in its upper part are thus contrasted with those of the intestine (and its mesentery) in its lower part, in order to emphasize the differences between them. The transition which these features undergo from one end of the intestine to the other is a gradual one; and it is by an estimate on the part of the surgeon as to the stage in this transition, which any given loop represents, that he is assisted in getting a fair idea as to the position of this loop in reference to the rest of the intestine. The thicker, the larger, the more vascular the loop, the more distinctly the valvulæ conniventes can be felt through its walls; and, in the mesentery, the larger, the longer, the straighter the vessels, and the greater the transparency, or, at least, the translucency, of that structure, the more probable it is that the loop in question belongs to the upper part of the bowel.

On the other hand, the thinner, the smaller, the less vascular the loop, the less the valvulæ conniventes can be felt through its walls; and, in the mesentery, the smaller, the shorter, the more tortuous the mesenteric

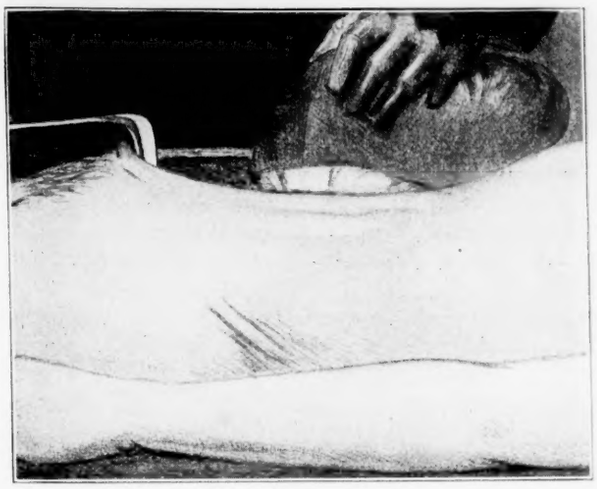
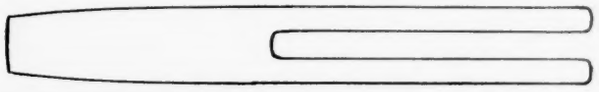


Fig. 11.—Method of inspecting the pelvis while the abdominal wound at its lower end is broadened and drawn downward and the small intestine, protected by a thin rubber covering, is gently drawn upward.

vessels, the thicker and more opaque the mesentery itself, especially if tabs of fat project from it on the bowel, the more certain it is that the loop belongs to the lower part of the bowel.

It is not by the presence of any one of these characteristics that the surgeon is able to get a satisfactory idea as to the real position in the intestine of any loop he may examine, for there is no single sign so characteristic of any part of the intestine as to enable him to determine what that part is, except at the two extremities where the intestine is fixed. He must, therefore, estimate the position of a given loop by a combination of characteristics just as he makes a diagnosis of a disease by a combination of symptoms. In making this estimate he is also influenced, as already stated, by knowing what part of the intestine he is most likely to meet with in the wound he has made.



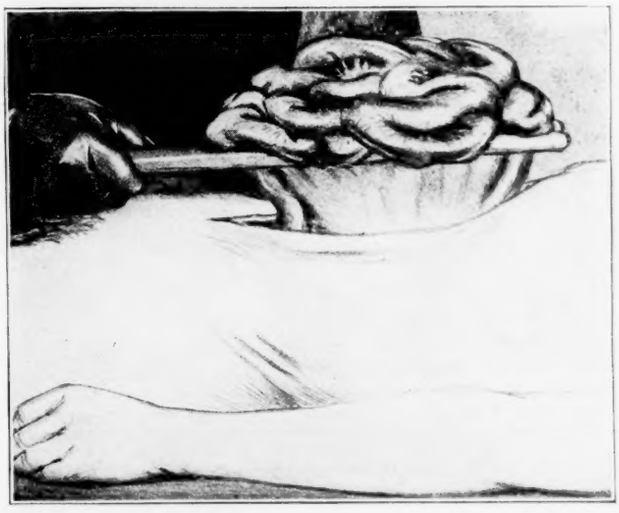


Fig. 12.—The elevation of all the coils of the small intestine on an instrument specially designed for this purpose.

It is in this way that the surgeon localizes a loop of bowel, and, though he may never do so exactly, yet, with a little practice, he ought to do so near enough for his purpose. When he needs the information, this is certainly better than no localization at all.

THE DETERMINATION OF THE REAL DIRECTION OF THE BOWEL IN ANY GIVEN LOOP

To know the real direction of the bowel in any given loop (or, in other words, to discover which is the proximal end of the loop and which is the distal) is, of course, often useful to the surgeon; therefore, it seems appropriate here to describe a method by which, in cases in which the abdominal wound is large enough to permit palpation of the mesenteric root, he can, without much trouble, determine it.[5] The procedure is as follows (Fig. 7): The loop is drawn well out of the wound, and its two extremities held upward by the assistant, the axis of the loop being kept by him parallel to the known axis of the root of the mesentery. The surgeon's right hand is now applied to the loop in such manner that his thumb is on one side of the mesentery

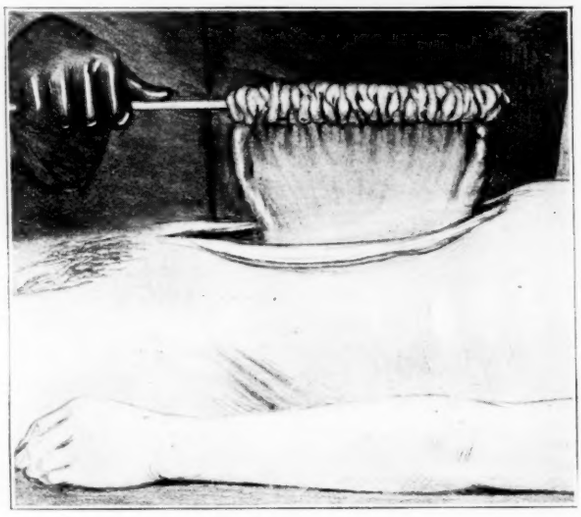


Fig. 13.—Small intestine suspended on a rod, after having been gathered up on it loop by loop.

and his first two fingers are on the other. The thumb and fingers are then gently pushed downward in the direction of the root of the mesentery. If, by palpation of the mesentery, the surgeon detects no twist in it, he at once knows that the upper end of the loop (as it is then held) will, if followed up, conduct him to the duodenum, and that the lower end will conduct him to the ileocecal valve. If, however, there is a twist in the mesentery, the surgeon should withdraw his hand, remove the twist by turning the bowel, and examine again. When, finally, no twist remains in the mesentery, the surgeon knows, just as in the first instance in which no twist was found, that the end of the loop which is uppermost is the one which leads to the duodenum, and that which is lowest to the ileocecal valve.

The same determination may, in certain cases, be made by inspection alone, if the abdominal wall on one side of the wound, and the coils of intestine under it, are strongly retracted.

5. When I first made tests in reference to this procedure I thought that the principle on which this determination rested was new; but, later, I learned that it had already been suggested by Dr. R. F. Rand (Lancet, Dec. 22, 1883, p. 1083). I have also found a few references to the principle in text-books—of later date, however, than that of Dr. Rand's article. But so far as I know, the idea of the surgeon's thumb and fingers "straddling" the loop, as it were, so as to allow palpation of both sides of the mesenteric root at once, is not suggested in any of these places.

PROTECTION OF COILS OF INTESTINE OUTSIDE THE ABDOMINAL CAVITY

As it often happens that the surgeon brings out a considerable part of the intestine through an abdominal wound, or that, in spite of his efforts to keep coils, when they are distended, within the abdominal cavity, they still protrude through the wound, it is obviously desirable to protect them so long as they remain outside of the abdominal cavity. Towels, which have been wet with hot saline solution and wrapped about them, are heavy, rough and easily displaced; they also soon get cold. In a number of operations on patients, as well as on animals, I have found the use of two sheets of thin rubber to be of much value in protecting these intestinal coils from injury and infection, and in keeping them warm and moist (Fig. 8). One of these sheets, with a short slit near its center, is laid on the abdomen in such position that the slit is directly over the abdominal wound. The intestines are then drawn out through the wound and through the slit, and are made to rest on the smooth upper surface of the sheet of rubber. If this sheet is large enough—it should be at least eighteen inches square—the bowels, on account of the restraining effect of the mesentery, can not reach beyond its borders. The second sheet of rubber is used to cover the bowel. If the surgeon wishes for any purpose to open the bowel, he can perforate the second sheet, and, through the opening thus made, he may draw out the loop of the bowel on which he intends to operate; or, if he prefers to do so, he may, without perforating the second sheet, draw this sheet around the loop of bowel, constricting the loop as much as he wishes by drawing a piece of the rubber sheet tightly about it, and fastening the ends of this piece together with the hemostatic forceps.

By means, then, of these two sheets of thin rubber the bowels may be kept moist and warm and protected from injury and infection.

If the lower sheet of rubber is large enough it may be turned up over the bowels in the way indicated in Figure 9, and thus be sufficient protection to them, without the second sheet being needed.

Even in cases in which, for the purpose of opening the intestine, only a single loop of bowel is drawn outside of the abdominal cavity, this loop may, before it is opened, first be drawn through a small slit in a sheet of this rubber, and the peritoneal cavity, by this maneuver, be sufficiently protected from the escaping contents of the bowel. It would seem that surgeons might well learn a lesson from the dentists in regard to the use of the rubber dam.

It is well to have these sheets of rubber sterilized, and, like rubber gloves, kept ready for use. They may be soaked in warm salt solution just before using.

INSPECTION OF THE ABDOMINAL CAVITY WHEN THE SMALL INTESTINE LIES OUTSIDE OF THE ABDOMINAL WALL

If all of the movable part of the small intestine is outside of the abdominal cavity, and rests between the two rubber sheets, the great cavities of the abdomen (that is, the fossa on the left side, that on the right, and, also, the cavity of the pelvis) may be inspected with comparative ease—and such of their contents as

remain examined—by gently drawing the rubber sheet and the bowels first to one side, then to the other, and finally upward, a broad retractor being used at the same time to draw the abdominal wall away from the mesentery (Figs. 10 and 11).

This same procedure has been carried out (on the cadaver, at least) even more satisfactorily by the use of a large instrument, shaped like a tuning-fork, and consisting of two parallel arms and a broad handle (Fig. 12). The instrument is well rounded and smooth, so as to minimize the possibility of damaging the intestine or mesentery. The arms are eight and one-half inches long, and the interval between them is a little less than three-quarters of an inch. The whole instrument is about fifteen inches long. It is intended for the purpose of elevating and supporting the intestines; during which process the mesentery, in a continuous flat sheet, occupies the long narrow interval between its two arms. This instrument is placed in position in one of two ways:

1. It may be held flatwise over the abdomen, and in such position that the long space between its two arms lies parallel with and directly over the abdominal wound. A loop of small intestine near the ileocecal valve is drawn out of the wound and pulled through the space between the two arms of the instrument, and then turned to one side or the other. The upper end of the loop is then gently pulled on, and as much more of the intestine as it is desired to take out is gradually drawn up through the opening and turned over one of the arms. Nearly the whole of the small intestine can in this way be drawn up between the arms of the instrument and made to rest on their upper surface. When the intestines are on this instrument, they can easily be moved *en masse* to one side or the other, thus making it easy to inspect the large fossæ of the abdomen, the edge of the abdominal wound being first, of course, strongly retracted.

2. The instrument may be passed at once under the mass of intestines, its two arms slipping along the two sides of the mesenteric root, the mesentery itself entering the space between them. This is done by taking up the lower end of the ileum into the space between the arms of the instrument, and then working them gently upward along the back part of the abdominal cavity, so as to include the whole of the mesentery along its base. This procedure will probably be found much easier to execute than the first method in cases in which the intestinal coils are much distended with gas.

DEMONSTRATION OF INTESTINE AND MESENTERY AT THE SAME TIME

For the purpose of demonstrating the mesentery and small intestine at the same time I have frequently gathered up the intestine on a rod, the rod being introduced into the intestine through a small wound a few inches above the end of the ileum, and the whole, or nearly the whole, of the intestine drawn over the end of the rod.

When this has been done and the rod, with the intestine on it, is drawn upward so as to stretch the mesentery, a very satisfactory view of intestine and mesentery together may be obtained (Fig. 13).

INTESTINAL TUBAGE

It was several years ago (1903), while demonstrating the intestines gathered on a rod, as already described, that the idea occurred to me of using a rigid tube in much the same manner that I used the rod, the tube being for the purpose, however, of emptying an intestine full of gas and liquid feces. Since then I have experimented on many occasions with such a tube on the distended intestines of cadavers, and, in a number of instances, I have used the method on patients. The tube can not be pushed into the intestine, but the intestine must gradually, by means of a piece of gauze, be drawn over the end of it (Fig. 14). The tube opening into the intestine, for passage of the tube, may be made near one end of the intestine, and the intestine slowly drawn over the end of the tube, or it may be made somewhere near the middle of the intestine, and the intestinal canal emptied in both directions.

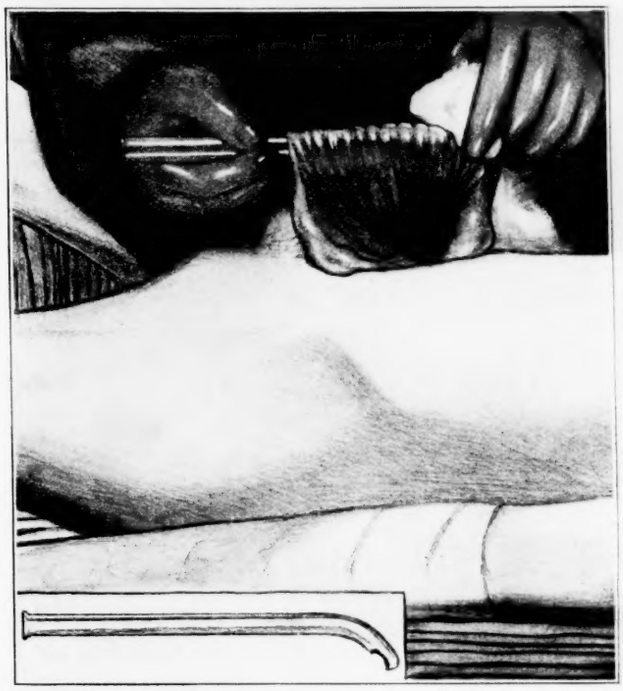


Fig. 14.—Intubation of the intestine on the cadaver. The intestine is being drawn over the end of the tube by means of a piece of gauze. Some of the tubes used in these experiments were straight and some were curved. The one shown at the lower left-hand corner of the picture has a curved extremity.

THE PELVIC FOLD OF THE MESENTERY

I can not close this article without referring to certain surgical procedures which, directly or indirectly, have to do with the lowest fold in the mesentery, which fold—for lack of a better name—I have ventured to call "the pelvic fold of the mesentery." This fold consists of that part of the mesentery which is attached to the intestinal coils in the pelvis. The posterior border of this fold forms a definite landmark there. From a wound in the right iliac region, it can easily be reached and palpated by the forefinger of the operator; in fact, if the wound is large enough all the pelvic coils of intestine can be lifted out of the pelvis by pressure upward on this fold, to which, of course, the coils of intestine are all attached.

In case it is thought necessary to irrigate the abdomen from a wound in the right iliac region, it is well to know that the irrigating nozzle may best reach the great fossa on the left side of the abdomen by being carried behind this pelvic fold and then upward.

In connection with the technic of irrigating the abdominal cavity, it is well to remember that, in a way,

the mesentery may be looked on as a sort of partition, or fence, separating the two sides of the abdominal cavity. Though this partition may be curved, twisted and reduplicated in many different ways, yet it still remains a partition, and, in a sense, it separates one side of the abdominal cavity from the other. Now, for those operators who practice irrigation of the peritoneal cavity, it is well to know that the fossæ on both sides of this partition may easily be reached by the nozzle of the irrigating tube, through almost any wound where a loop of small intestine presents itself; for the nozzle may be passed down on each side of the mesentery attached to the loop toward the mesenteric root, care being taken to follow the surface of the mesentery closely. In this way the tip of the irrigating tube may, in almost any abdominal wound, be carried first to the bottom of one abdominal fossa and then to that of the other.

There is one more point concerning the pelvic fold of the mesentery which seems well to deserve the surgeon's attention. It is that whenever, through an incision in the right iliac region, the operator desires at

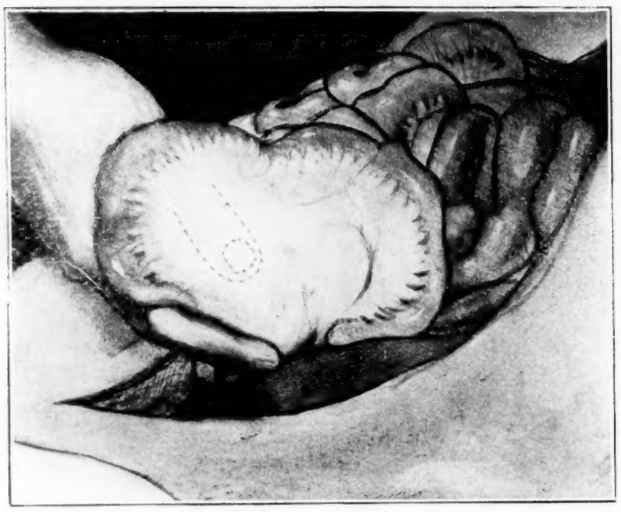


Fig. 15.—Method of picking up the lowest end of the ileum through an abdominal wound. The forefinger is seen, as it rounds the pelvic fold of the mesentery. The thumb (indicated in dotted lines) is on the other side of the mesentery. (Reproduced, with a few changes, from a figure in a former article.)

once to find the lower end of the ileum (as in perforated typhoid ulcer, for instance) he can do so by the following method: He passes his index-finger (two fingers are sometimes better) along the parietal peritoneum at the back of the pelvis, and around the base of the pelvic fold of the mesentery (Fig. 15). He now hooks his finger about the pelvic fold and closes the tip of the thumb on the tip of the finger, so as to grasp that fold and the loop of intestine which is with it. If he now allows the fold of mesentery gradually to slip away from between his thumb and finger, and then brings up the loop of bowel attached to it, he will find, in almost all instances, that he has in his grasp the ileum at a point close to the ileocecal valve. From this point he can then follow the ileum to any distance from below upward. If, on the other hand, he wishes to find the cecum, or appendix, he can be conducted to them by following the ileum for a few inches in the other direction.

SUMMARY

The special points which I wish to emphasize in this article are as follows:

1. The surgeon can, approximately at least, tell to what part of the small intestine any given loop belongs.

2. He can tell the real direction of the bowel in that loop, provided the wound is large enough to allow him to palpate the mesenteric root; or, after the bowels and the abdominal wall have been retracted, to see it.

3. Intestinal coils outside of an abdominal wound can be efficiently protected between two thin sheets of rubber.

4. When the intestines are enveloped (in the sheets of rubber) the abdominal fossæ and the pelvis may be inspected much more thoroughly than when the coils of intestine are within the abdominal cavity.

5. As a demonstration, the mass of bowels, comprising nearly the whole of the small intestine, can be supported well above an abdominal wound by means of a special holder.

6. As a demonstration, the intestine and mesentery may be satisfactorily shown at the same time by gathering the intestine on a rod, and then elevating the rod horizontally above the abdominal wound.

7. In order properly to introduce a long rigid tube into the intestines for the purpose of emptying them, the intestines should be drawn over the end of the tube, and "gathered" on it in a manner similar to that in which, for demonstration, the rod was used.

8. The base of the pelvic fold of the mesentery is an important landmark in the lower abdomen, and it can usually be palpated from a wound in that part of the abdomen.

9. The great fossa on the left of the abdomen may be reached from a wound in the lower abdomen by carrying the tip of an irrigating nozzle well around the pelvic fold of the mesentery, and then pushing it upward.

10. Finally, the lowest coil of the ileum can be picked up at once between the surgeon's thumb and finger by causing them to grasp the base of the pelvic fold of the mesentery and the loop of bowel which is attached to it.

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I wish to acknowledge assistance in regard to the anatomic disposition of the mesentery and the course of the intestine, from the excellent articles by Trevers, Henke, Sernoff, Weinberg and Mall, and also—concerning the arrangement of the mesenteric vessels—from the valuable paper by Prof. Thomas Dwight.

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67 Marlboro Street.

Deaf-Mutism in Idiots.—H. B. Sheffield, New York, states that congenital deafness is associated with mutism, but that even when hearing is intact few idiots are able to speak. Some of them by imitation learn to utter a few words, but their expressions usually bear no relation to any distinct desire or action, and they understand words spoken to them no better than what they speak. Moreover, their power of imitation is very much delayed in development or may never become manifest—all depending on the faculty of attention. In partial idiocy, such as mild forms of infantilism, cretinism, encephalitis or microcephalus, the power of conversation may reach a certain degree of potency, but the vocabulary is very limited and fragmentary.—*Post-Graduate*, February.

THE REPAIR OF THE INTERNAL RING IN OBLIQUE INGUINAL HERNIA*

F. GREGORY CONNELL, M.D.

OSHKOSH, WIS.

An understanding as to the various steps necessary in the repair of oblique inguinal hernia may be materially aided by a comparison of the relations of the normal structures with those in which a hernia exists; and these are shown in the following parallel columns and in Figures 1, 2, 3 and 4:

Structures.	Normal.	Hernia.
Parietal peritoneum.	Smooth and even..	Outward bulging, forming the sac.
Internal ring.....	Snugly surrounds cord.	Enlarged downward and inward, surrounds the cord and sac.
Internal oblique muscle.	Covers and protects the internal ring.	Does not cover, or only partially covers the internal ring.
Inguinal canal.....	Oblique, long and narrow.	Less oblique, shorter and wider.
External ring.....	Small and triangular.	Enlarged upward and round.

Radical operation for the cure of inguinal hernia should consist of an attempt to restore the various structures to their normal relations.

In the majority of operative methods in vogue at present no attempt is made to reproduce the anatomic relations, the result being an alleged improvement on Nature, as is exemplified by the Bassini method. Synchronous with and largely due to the teachings of Ferguson, there has been an increased employment of operative procedures in which the anatomic relations are more or less completely replaced, Nature being imitated in the attempt at cure.

The rationale of so doing has been well emphasized by various observers. For example: the removal of the sac at the neck with the redundant parietal peritoneum has been emphasized by many, but the etiologic importance of a congenital sac as brought out by Mr. Hamilton Russell[1] of Melbourne in his "saccular theory" is a most convincing argument in favor of this detail of the operative treatment.

The advisability of placing active, red muscle, the internal oblique, external to the internal ring, to act as a protection or check against the protrusion of viscera through the ring, we owe to Ferguson.[2]

That the inguinal canal must be long and oblique so that with increased intra-abdominal pressure the walls of the canal will be held in more intimate apposition, and hernia be prevented by a valve-like action of the canal, was perhaps first emphasized by Marcy.[3]

The necessity of the walls of the canal fitting snugly around the cord has been met by the imbrication or double breasting of the walls as applied to inguinal hernia by Andrews.[4]

The attempt to secure a strong and small external ring was a part of, and in some instances the entire aim of some of the early and incomplete forms of operation. The strength of the external ring has of late been assured by the incision of Mayo,[5] which allows the preservation of the intercolumnar fibers of the external oblique.

A new internal ring is made in the majority of the operations now employed. But in an anatomic operation the original internal ring should be repaired, that is, (a) made smaller of suitable size properly to surround the cord after the removal of the sac, and of equal importance, (b) replaced to its normal position and in proper relation with the inguinal canal, and the external ring.

The internal ring may be diminished in size by suture of the transversalis fascia, either above or below the opening for the passage of the cord.

The suturing of the transversalis fascia from below upward, that is beneath the cord, was first performed in 1878 by H. O. Marcy.[6]

This detail was likewise a step in the "combination operation" reported by Ferguson[7] in 1895.

But in the "typic or anatomic operation," a description of which was published by Ferguson in 1899, all the structures are replaced to their normal anatomic relations, with the single exception of the internal ring, which is depressed because of the advice that the internal ring be strengthened, "with a few stitches above the root of the cord."[8]

From inquiry and from observation I am led to believe that in many so-called Ferguson operations this detail, the minimizing of the internal ring, is often omitted, which may, in part, account for recurrence where this does occur.

When these stitches are placed above the cord, only one of the essentials for the repair of the ring is fulfilled, that is, the ring is made smaller. The lower and inner margin of the dilated ring, which is the most abnormal and displaced portion of the circumference, is used as the fixed margin; while the upper, the normal superior boundary, is brought together and displaced downward. In this way the ring while being made smaller is at the same time depressed (Figs. 5 and 6). So it would seem that diminution in the size of the internal ring by suture of the transversalis fascia above the cord does not constitute proper repair. While mere diminution in caliber is an important step in operation, the results would be still better if the ring were elevated to its normal position and relation at the same time that it is made smaller. And this is accomplished by placing the stitches beneath the cord, which pleat and reinforce the abnormally dilated and attenuated lower margin, while the superior margin, that portion of the ring that has not been stretched, dilated and displaced by the protrusion of the sac, is not interfered with but is used as the fixed margin.

The necessary stitches in the transversalis fascia, preferably of the mattress type, may be inserted and tied, in such a manner that the cord is not extensively separated from its attachments, and the knots may be placed to one side so that they will not irritate the cord.[9] As a result the upper margins of a repaired ring and a normal ring are in the same relative position, which is at the proper distance above and external to the outlet of the canal.

This apparently trivial difference in the manner of repairing the internal ring will, with a study of the subject, be found to be of the utmost importance regarding the length and obliquity of the resulting inguinal canal.

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* Read at the Western Surgical and Gynecological Association, Dec. 29, 1908.

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9. Connell, F. Gregory: Radical Operation for the Cure of Hernia, Surg., Gynec. and Obst., October, 1908, p. 451.

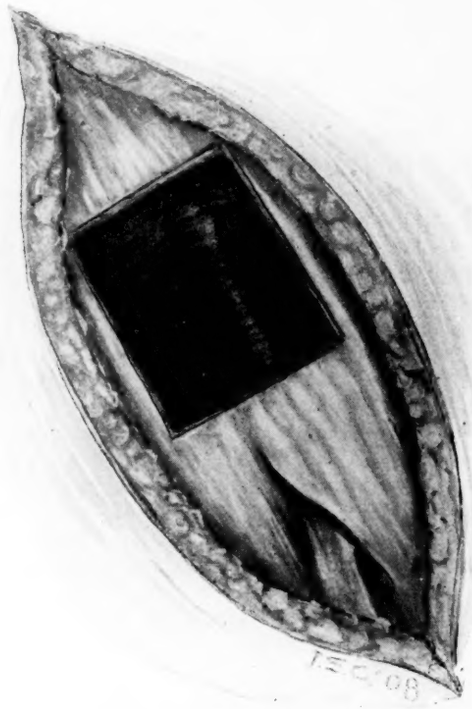

Fig. 1.—Front view, inguinal region, normal relations, showing, through an opening in aponeurosis of external oblique muscle, the size and position of the internal ring, lying behind the internal oblique muscle.

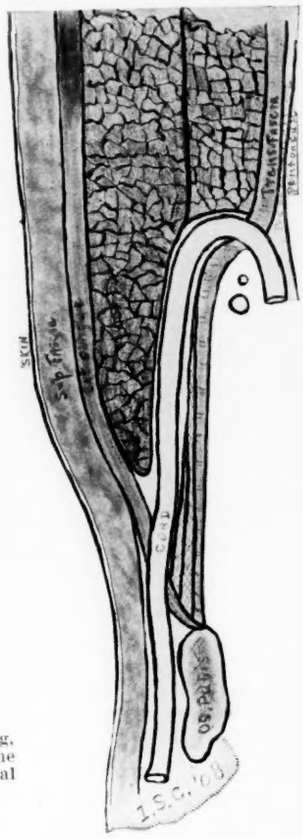

Fig. 2.—Sectional drawing of relations in Fig. 1, showing parietal peritoneum smooth; internal ring small and surrounding cord; internal oblique muscle covering internal ring; inguinal canal oblique, long, and narrow.

Fig. 4.—Sectional drawing of relations in Fig. 3, showing parietal peritoneum bulging outward forming sac; internal ring enlarged downward, surrounding cord and sac; internal oblique muscle elevated above the internal ring; inguinal canal less oblique, short and wide.

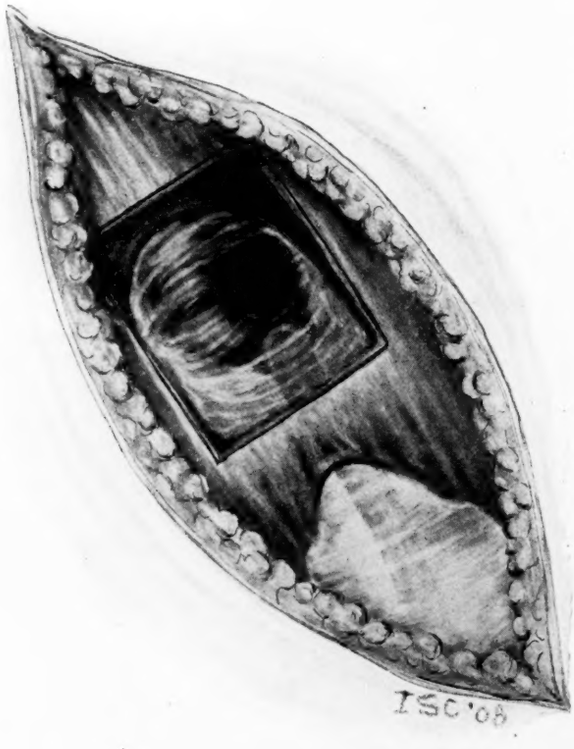

Fig. 3.—Front view, inguinal region, with oblique inguinal hernia, showing, through an opening in aponeurosis of external oblique muscle, elevation of internal oblique muscle; dilatation and descent of internal ring; with sac covering cord and presenting at dilated external ring.

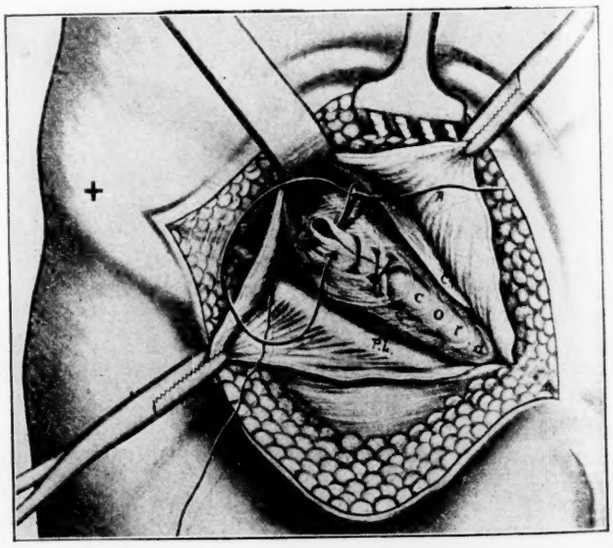

Fig. 5.—Repair of internal ring (from Ferguson).

Ferguson has so forcibly and ably impressed the importance of placing the internal oblique muscle external to the external ring, that the value of a small and normal internal ring has been comparatively overlooked. These two factors are mutually beneficial; the higher the internal ring and the lower the internal oblique muscle, the more effectual will be the prevention of recurrence (Figs. 1 and 2).

The reason that the internal ring has not been elevated, as well as made smaller, by stitches placed be-

neath the cord, is the fear of a possible traumatism to the cord, which might cause interference with the nutrition and function of the testicle.

The question whether the transplantation of the cord is necessary in the radical cure of inguinal hernia, I have previously discussed.[10]

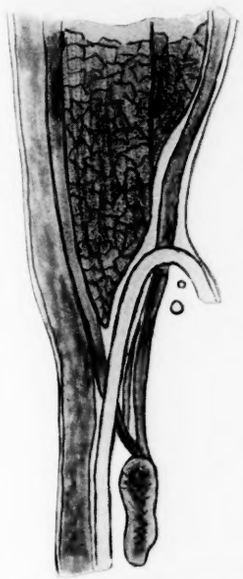

Fig. 6.—Sectional drawing of relations in Fig. 5, showing descent of internal ring.

Repair of the internal ring with a consequent elevation of the cord to its normal position can hardly be considered a transplantation of that structure.

In conclusion: I would emphasize the repair of the internal ring by suture of the transversalis fascia beneath the cord, which causes both minimization and elevation of that structure, with the attachment of the internal oblique muscle to the outer two-thirds of Poupart's ligament, so that it covers and protects the repaired internal ring. The above details cause a relationship which results in a valve-like formation of the inguinal canal, which is important in preventing recurrence. These steps should be preceded by the removal of the sac at its neck, with the redundant parietal peritoneum, and followed by the reunion of the divided external oblique aponeurosis, and the formation of a suitable external ring.

THE MANAGEMENT AND TREATMENT OF A CASE OF INFECTION BY THE BACILLUS TYPHOSUS *

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BUSHNELL, ILL.

In consideration of the prevalence and mortality rate of typhoid, as ordinarily treated, I desire to present a method of management in this infection which promises to reduce the mortality to a large extent.

The most constant objective symptom of infection is fever, and it has been considered the physician's duty to combat it at all hazards. The use of the coal-tar antipyretics, however, was followed by an increased mortality rate, while the Brand method, founded on the idea that fever should be lessened, if possible, does not, I believe, materially lower the mortality rate. A consideration of the complex of symptoms which we call fever leads me to believe the rise of temperature in fever to be, as Bunge says, "one of the processes of self-protection and regulation of which we have so many examples in the body." On the assumption that fever is a physiologic effort at self-defense, the physician can surely occupy himself with something better than attempts at dulling this valuable weapon.

A case of typhoid infection presents pre-eminently a picture of toxemia; the trembling tongue, the slow cerebration, the diarrhea with anorexia and insomnia, all point to profound intoxication produced by the toxins set free by the disintegrating bacilli. If the individual lives, he will have established immunity to the bacillus in from three to five weeks. The physician at present possesses no drug or combination of drugs capable of destroying the bacteria or of hastening the immunizing process. Writers in current medical literature concern themselves chiefly with devising methods of lowering the temperature, but not a single writer, so far as I know, has suggested a plan for lessening the toxemia which is the sole cause of the patient's rise of temperature.

In my experience with the Brand method, in the absence of bath facilities, I had to resort to the application of bath towels saturated in water inversely proportionate to the temperature of the patient. The clearing up or non-appearance of delirium, the lessening of diarrhea and tympanites, and the improvement in sleep and digestion, really due to lessening of toxemia, I attributed at first to the antipyretic effects of the bath, which, however, seemed out of all proportion to the insignificant lowering of the temperature. But a series of cases in women and children, who refused the cold towelings, compelled me to compromise by warmer but more frequent baths. To my surprise, these patients did much better than those who had received the cold toweling. This led me to formulate a method of treatment that includes, first, the water supply necessary; second, a regular elimination of toxins, and, third, the food supply—these being, to my mind, the fundamentals of successful treatment of a patient with typhoid infection.

The method is briefly this: As soon as a diagnosis is made with reasonable certainty a calomel purge is given at bedtime and is followed with a saline cathartic next morning, not with the idea of modifying the infection, but for the purpose of clearing the intestinal tract of particles of undigested and fermented food, for during the prodromal period of the disease most of these patients eat food that they can not digest.

The baths are now instituted at once without reference to the patient's temperature. The bath is first given at 7 a. m. and repeated regularly every two hours during the day until 9 p. m., unless the patient is restless, when the last bath is given at 11 p. m. Immediately preceding each bath the patient is required to drink from four to eight ounces of water, and immediately after each bath he is required to sip slowly from two to six ounces of milk, the amount depending largely on the appetite of the patient.

TECHNIC OF THE BATH

One-half of the bed is covered with any material (an ordinary quilt, folded once, answers the purpose perfectly), the patient's nightgown is removed and he is moved on to the covered portion of the bed. Two large bath towels are then saturated in a bowl of water of the required temperature; the patient is told to extend the arms parallel with the body, and the anterior surface of the body is covered with the towels that have been slightly squeezed—not wrung—when taken from the water. The towels are allowed to remain for three minutes; then they are removed, rewetted, and the process is repeated on the posterior surface of the body. The patient's body should be entirely covered from head to heel, the towels overlapping somewhat in the middle of the body. The whole process, including time spent

10. Connell, F. Gregory: Am. Jour. Med. Sc., March, 1905.

* Read before the Military Tract Medical Association, Oct. 15, 1908.

in giving water before the bath and milk afterward, should occupy about twelve minutes. If the patient complains of chilliness following the bath he may have a hot-water bottle and some extra cover for fifteen or twenty minutes, and if the chilliness is not relieved in this time it is best to raise the temperature of the water used in the bath.

These baths should be continued in this manner and time until the patient seems on the point of achieving his immunity, as evidenced by a marked fall in temperature, an ability to take solid food, the occurrence of a formed fecal movement, a normal tongue, etc. Then they should be given every three hours, and after the temperature has been normal in the evening for two or three days they may be discontinued, unless the disease should later show signs of recrudescence, when they should promptly be again instituted.

CONTRAINDICATIONS

The only contraindication I have recognized is the occurrence of severe intestinal hemorrhage. The baths should then be stopped for a few hours, until it appears that the hemorrhage is controlled, when they should be resumed. The temperature of the bath for a robust adult should be about 60 F., and for most women and all children from 20 to 30 degrees higher. When the reaction is delayed more than ten minutes it is too cold and the temperature should be raised.

ADVANTAGES OF THIS SYSTEM OF BATHING

The baths are as practicable in the humblest home and as readily given there as in the best appointed hospital. They do not require the ministrations of a trained nurse. Any fairly intelligent woman can learn the method in fifteen minutes, and a little criticism on the part of the attending physician will render her work perfect in the first few days of the case. This contrasts strongly with the Brand system, the appointments for which were scarcely obtainable outside of a hospital. And really less than 0.5 per cent. of patients ever received this treatment on account of lack of facilities.

PURPOSE AND EFFECT OF THESE BATHS

These baths have little or no effect on the temperature, but there is every clinical evidence that they do eliminate the typhoid toxins. A patient who receives these baths regularly from the time of diagnosis will not develop troublesome diarrhea, delirium and insomnia. I always leave orders that the patient must have his bath on time, even if it is necessary to wake him, because I am certain that he will have no trouble subsequently in getting all the sleep he needs. I believe the elimination of toxins takes place through the skin.

These baths shorten the period of immunization to three weeks or less in the great majority of cases, but do not, in my opinion, lessen the tendency to loss of immunity or what is generally termed a relapse. If this occurs the baths should be promptly resumed, and the relapse usually runs an exceedingly short and mild course.

MEDICINE AND DIET

The only drug administered is copper arsenite, 1/100 gr., dissolved in half a glass of water and taken four times a day, for the purpose of precipitating the toxin in the intestinal canal. Alcohol should not be given, either as a food or as a medicine, as it interferes with the physiologic activity of the phagocyte, the most important factor in the immunization process.

By lessening toxemia this method tends to prevent hemorrhage, and if perforation occurs the patient is in better condition to stand an operation than under customary methods of treatment.

Milk, I believe, is the best food. If it disagrees I lessen the amount and cause it to be sipped slowly, or, if necessary, buttermilk is substituted. Bread and butter may be given after the second week if the patient desires solid food, but previously to that time even liquid mixtures containing starch should be avoided, as the patient is not likely to be able to digest them. The condition of the mind should be considered in regulating the diet, for a patient with a normal sensorium is much more likely to digest food than one who is in a low muttering delirium. I believe that the majority of patients are fed too much during the first week, for their power of assimilation at this time is at its lowest. Some fruit juices should be allowed, avoiding the citrus fruits, however, during the early stage of the disease.

The patient should be instructed to wash the mouth and teeth two or three times a day with a mild alkaline solution. I use a Carl Seiler tablet dissolved in half a glass of warm water.

RESULTS

Now, do results justify this method? During the period from 1898 up to the present time ninety-seven cases of typhoid have come under my care, and during the eleven years I have been using this method the mortality has been absolutely *nil*.

This experience extends over such a long period of time it must of necessity have included cases of almost every degree of virulence. And I believe that the merits of any method of treatment must be judged by a time test as extensive as this one. We all see epidemics of this infection so mild that the patients practically all recover, no matter what the treatment; while other epidemics are so virulent that the mortality is as high as 40 or 50 per cent. These facts have been borne in mind, and after eleven years' experience with the method that I have placed before you to-day I firmly believe that I am justified in making the assertion that this is the ideal treatment for typhoid fever: first, because it is founded on physiologic principles capable of demonstration; second, because it is practicable with all patients and under all circumstances; third, because results are all that could be desired.

COMPLEMENT FIXATION IN MALIGNANT DISEASE

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In a recent paper published in conjunction with Dr. W. S. Thomas,[1] I have pointed out that the blood serum of cancer patients may contain a substance or substances which, in the presence of cancer extract, will bind a larger amount of complement than the blood serum of normal individuals. It was found that this reaction could be obtained in about 65 per cent. of the cancer cases, while it was absent in 98 per cent. of our non-cancerous patients and in all normal persons. The small number of positive results in non-malignant cases finds its probable explanation in the fact that cancer

1. Simon, C. E., and Thomas, W. S.: Complement Fixation in Malignant Disease, Jour. Exper. Med., 1908, x, No. 5, p. 673.

antigen may react with the blood serum of syphilitic individuals and thus likewise bring about an abnormal degree of complement fixation. Our paper was sent to the *Journal of Experimental Medicine* early in May, and we were hence unable to notice certain papers bearing on the same subject which appeared in the *Wiener klinische Wochenschrift* about the same time and since then. Elias, Neubauer, Porges and Salomon[2] report that they found complement fixation "relatively frequently" in cases of tumor, and they are strongly inclined to attribute their positive reactions (which were obtained with an alcoholic heart extract as antigen), not to antecedent syphilis, or the advanced age of most of the cases, but to the malignant disease *per se*. They speak specifically of one case, that of a girl 15 years old, a "virgo intacta" with positive, though slight, complement fixation, in whom there was no basis whatever for presupposing a syphilitic infection, either acquired or hereditary. The condition was an ovarian sarcoma with metastases to the peritoneum, the pleura and the mediastinum.

Weil and Braun[3] obtained marked reactions in 4 tumor cases out of 14, viz.: in 1 case of carcinoma of the liver, following cancer of the stomach; in a case of general carcinomatosis and 1 of sarcomatosis, in both of which the fixation was obtained with the pleural exudate, sc. transudate; and in 1 case of cancer of the breast with extensive metastases. Weil and Braun emphasize that there was not the least reason for assuming a syphilitic infection in these four cases; that they were all severe cases; that the milder ones did not give the reaction, and that it would be unreasonable to conclude that only the severely affected patients should have had syphilis in the past, while the slightly affected ones had been free from the disease. Like the preceding investigators, Weil and Braun also used alcoholic heart extracts as antigen.

Besides these, Gross and Volk[4] mention two cases of non-syphilitic tumor patients in whom a very marked reaction was obtained, and Salomon[5] reports briefly from von Noorden's clinic that complement fixation was frequently observed in older people with carcinoma in whom no indications existed of past syphilitic infection.

Other data bearing on the question at issue have, so far as I know, not been published.

During the past three months Dr. Thomas and I have continued our own investigations and we now have data bearing on 59 cases of cancer. In our first series fixation was noted in 65 per cent. of the cases and in our second series in only 50 per cent. This discrepancy we are inclined to refer to the fact that we were obliged to use a tumor extract as antigen which was several months old and had not been kept on ice during that time. A relatively fresh medullary cancer was not available during the fall months, and for obvious reasons we did not wish to use any other than cancer antigen in our research. As we have pointed out before, much depends on the character of the antigen. In our work we have only used breast-cancer antigen, and we have found that quantitatively good results can be obtained only with very cellular growths. Whether or not complement fixation can be obtained in a higher percentage of cases than what we found in our first series, future investigations will show.

So far as the occurrence of the reaction in non-cancerous cases is concerned, our studies have led to the conclusion that, except in syphilis, it is rare, and in the few cases in which it did occur we can not exclude syphilis altogether. The substitution of the usual antigens which are used in syphilitic work does not help us to solve the question, for we now know that cancer antigen may react with syphilitic sera, and that "syphilitic" antigen may react with cancer serum. This fact, of course, lessens the diagnostic value of complement fixation in malignant disease. At the same time it overthrows the usually accepted idea of the specificity of the reaction so far as syphilis is concerned. To what extent this will interfere with the diagnostic significance of the fixation reaction in syphilis will depend, to a considerable extent, on the individual case. In many instances —indeed, in most—its importance will remain unimpaired; in cases, however, in which we are dealing with tumors each case will have to be judged by itself. Generally speaking, *absolute* fixation may be regarded as pointing toward syphilis, while it is usually only partial in cancer; it may, however, also be complete. The Porges lecithin reaction unfortunately does not help us either to differentiate the cancer from the syphilis cases. For, while certain observations (such as the solubility in ether of the substance or substances present in syphilitic sera, which is responsible for the precipitation of lecithin, in contradistinction to the "fixing" substance) suggest that the Porges and the Wassermann reaction may not be referable to the same substance,[6] the fact remains that, so far as syphilis is concerned, the two furnish practically the same results, and it is especially noteworthy that the lecithin reaction also is quite commonly obtained by Stumme,[7] who found a positive lecithin reaction in 8 cases of malignant disease out of 10, and a doubtful one in the 2 remaining instances. No difference in this respect was noted between carcinoma and sarcoma and between ulcerating and non-ulcerating growths. Shortly afterward Weil and Braun published an account of 17 cases of cancer, in 8 of which the reaction was strongly positive and in 1 doubtful. They remark that their lower percentage of positive findings may have been owing to the fact that in some of the negative cases they were obliged to use smaller quantities of serum than Stumme had advocated. Their positive list includes both sarcomas and carcinomas.

To recapitulate, then, it may be said that both complement fixation and lecithin precipitation may be obtained in malignant disease and that under certain conditions both reactions may have a diagnostic significance. Further research will be necessary to establish the relative frequency of the reactions in the diseases in question and, above all, to determine whether the quantitative differences which seem to exist in cancer as compared with syphilis are such that diagnostic inferences are justifiable in the differential diagnosis between the two conditions.

2. Elias, H., Neubauer, E., Porges, O., and Salomon, H.: Ueber die Specifizität d. Wassermannschen Syphilisreaktion, Wien. klin. Wchnschr., 1908, xxi, No. 18, p. 652.

3. Weil, E., and Braun, H.: Ueber positive Wassermann-Neisser A.-Brucksche Reaktion bei nichtluetischen Erkrankungen, Wien. klin. Wchnschr., 1908, xxi, No. 26, p. 938.

4. Gross, S., and Volk, R.: Weitere serodiagnostische Untersuchungen bei Syphilis, Wien. klin. Wchnschr., 1908, xxi, No. 44, p. 1522.

5. Salomon: Protok. d. k. k. Gesellsch. d. Aerzte in Wien, Wien. klin. Wchnschr., 1908, xxi, No. 11, p. 377.

6. Pick, E. P., and Pribram, E.: Beiträge zur Kenntniss aetherempfindlicher Substanzen des Blutserums und ihr Einfluss auf einige Immunitätsreaktionen, Biochem. Ztschr., 1908, xi, Nos. 5-6, 418.

7. Stumme: Protok. d. k. k. Gesellsch. d. Aerzte in Wien, Wien. klin. Wchnschr., 1908, xxi, No. 11, p. 377.

In conclusion, I would emphasize that a very considerable amount of experience is necessary, and more especially in the partial reactions of cancer, with the technic involved in the fixation reactions, and that conclusions should be attempted only by investigators who are thoroughly familiar with the subject. There are many pitfalls which are trying even to experienced workers.

NOTE.—In Progressive Medicine, December, 1908, Dr. Bloodgood, referring to the question of the possibility of hemolysis in blood transfusion, remarks that I recommend the examination of the recipient's serum against the donor's corpuscles, while according to Crile hemolysis between the donor's corpuscles and the patient's serum will do little harm, whereas the reverse hemolysis strictly contraindicates transfusion; that two tests should accordingly be made, of which the most important one is just the reverse of the one ascribed to me. This statement, so far as my attitude is concerned, rests on a misunderstanding on the part of Dr. Bloodgood. If the blood test is made at all then it should be made on both sides, viz.: both the donor's and the recipient's serum should be tested against the recipient's and the donor's corpuscles respectively. The concentrated serum, moreover, should be used, and not the diluted serum, as is erroneously stated in Bloodgood's article.

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SOME FACTS ABOUT THE ARMY MEDICAL CORPS

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As the young physician nears the end of his hospital service as interne, the matter of a career occupies much of his attention, and his uncertainty and hesitancy in making definite plans for the future lessen that confidence with which he received his diploma. It is this young man to whom I address this paper. If he is of good character, physically fit, and possesses good professional attainments what I have to say will point out to him a definite career which offers a good living, high social and professional standing and opportunities to improve himself in the broadest sense. I speak of the Medical Corps of the United States Army.

The Army Medical Corps is composed of commissioned officers grading in rank from first lieutenant to brigadier-general, who as such have all the rights and privileges to which their rank entitles them, equal to those of officers of like grade in the line of the army and other staff corps.

Generally speaking, the emoluments consist of (1) a definite pay schedule fixed equally for all officers of the army according to rank; (2) foreign service pay; (3) longevity pay; (4) mounted pay; (5) travel pay when traveling under orders; (6) allowance of quarters, fuel and light; (7) leave of absence on full pay; (8) promotion; (9) retirement for age, and (10) retirement for physical disability contracted in line of duty and incident to the military service. The pay schedule and allowances, etc., for officers can be obtained by making suitable application to the War Department.[1] The pay is enough for any officer to live on if he is moderate in his tastes and careful in his personal financial affairs.

I wish to speak more particularly, however, of the inducements to enter the medical corps other than those pecuniary, because it is difficult for any one to arrive at a definite idea of the workings of the corps until he has served in it. My remarks, therefore, have to do more with the medical officer's duties than with what he receives from the government for doing them, and I shall speak of the attractions of the service for the medical man and his opportunities for travel, study and improvement in every way professional.

Entrance to the army medical corps is secured only by examination and no appointments are made without this preliminary. Full information how to proceed in this matter and the requirements for entrance are set forth in a circular which may be obtained by making direct application to the Surgeon-General, U. S. Army, Washington, D. C.[2]

After the candidate has successfully passed his preliminary examination he is ordered to the Army Medical School, Washington, D. C., for a course of instruction lasting eight months. The purpose of this school is to train in such subjects as are peculiarly appropriate to the duties which a medical officer of the army is ordinarily called on to perform. The course is eminently a practical one, and, since the duties of the military surgeon differ widely in many respects from those of his confrère in civil life, the value of this instruction at the beginning of the medical officer's career is obvious. The Army Medical School is situated in the same building with the Army Medical Museum and the library of the Surgeon-General of the Army, which is the most complete medical library in the world. Student officers have free access to both museum and library. The course at the school embraces the following subjects:

1. DUTIES OF MEDICAL OFFICERS, MEDICAL DEPARTMENT ADMINISTRATION AND CUSTOMS OF THE SERVICE.—Army hospital administration must necessarily be uniform and definite in its workings. All medical department affairs are taught in this course.

2. MILITARY HYGIENE.—Including ordinary and personal hygiene; study of food, drink, habits, heat and cold in relation to health, clothing, water supply, disposal of wastes, heating, lighting, ventilation, sewer systems and sanitary plumbing; camps, permanent buildings, etc.

3. CLINICAL MICROSCOPY.—Including bacteriology, parasitology and helminthology, especially in relation to tropical and epidemic diseases; methods of immunization, opsonins, etc.

4. MILITARY SURGERY.—Imperative surgery, gunshot wounds and injuries commonly encountered in the military service in peace and war; clinical course at Army General Hospital.

5. TROPICAL MEDICINE.—Including a study of all diseases met in our own tropical possessions and those of the colonial possessions of other nations; epidemic diseases and methods of control and those due to intestinal parasites and blood-inhabiting protozoa.

6. SANITARY CHEMISTRY.—Qualitative and quantitative analysis of water, air, foodstuffs, impurities, adulterations, etc.

7. HOSPITAL CORPS DRILL.—Including duties of litter bearers, use of ambulances and other methods of collecting sick and wounded, and first aid.

8. OPERATIVE SURGERY.—Operations on the cadaver—a very practical course.

9. OPHTHALMOLOGY AND OPTOMETRY.—A practical clinical course.

10. MILITARY MEDICINE.—History of medicine; evolution of medical science as applied to armies; study of diseases pecu-

1. The following annual salaries, in divided monthly payments, are increased by 10 per cent. for each period of five years' service until a maximum of 40 per cent. is reached: An assistant surgeon, with the rank of first lieutenant, mounted, receives $2,000 per annum, or $166.67 monthly. At the end of five years he is promoted to the rank of captain, which, with the increase of 10 per cent. for five years' service, is $2,640, or $220 a month. After ten years' service the pay would be $2,880 annually, or $240 a month. The pay attached to the rank of major is $3,000 a year, which, with 10 per cent. added for each five years' service, becomes $3,600 after ten years' service, $3,900 after fifteen years, and $4,000 after twenty years. The monthly pay of lieutenant colonel, colonel and brigadier-general is $375, $416.67, and $500 respectively.

2. Information in regard to entrance to both the army and the navy medical services was given in THE JOURNAL A. M. A., Oct. 19, 1907, xlix, 1386.

liar to camps, garrisons, moving commands, and preventive medicine in general.

11. X-RAY WORK.—Practical course. All students are required to operate the machine and take pictures. Discussions of therapeutic uses of the x-ray and radium.

12. EQUITATION.—A course in riding and use of the military horse equipments.

After this course, those who qualify and are found proficient are commissioned as officers of the regular establishment and are ordered on a two-year tour of duty in the Philippines or some other of our foreign possessions, where application is made of the training received at the school. The medical officer will serve with troops in garrison and in the field and will see at first hand those pathologic conditions peculiar to the place in which he may be serving. He may have opportunity to study the epidemiology of malaria, typhoid, cholera, plague or dysentery, and make practical application of sanitary methods and preventive medicine.

At the end of his foreign tour of duty there is opportunity to take leave of absence to visit foreign countries for study or pleasure; or the medical officer may allow his leave of absence to accumulate until he is entitled to four months, which will allow him time for post-graduate study at home or abroad. At all events, he will return to the United States for duty after his foreign tour with experience in his work and those broadening influences which travel and residence in foreign countries impose on every man.

A medical officer's duties in the United States may take him to a post or station situated in any part of the country. As a general rule the duties are the same at all garrisons. A quotation from the "Manual for the Medical Department of the Army" gives a general idea of what is required of the medical officer:

The medical department is charged with the duty of investigating the sanitary condition of the army and making recommendations in reference thereto, of advising with reference to the location of permanent camps and posts, the adoption of systems of water supply and purification, and the disposal of wastes, with the duty of caring for the sick and wounded, making physical examinations of officers and enlisted men, the management and control of military hospitals, the recruitment, instruction and control of the Hospital Corps and of the Army Nurse Corps (female), and furnishing all medical and hospital supplies, except for public animals.

The surgeon, under the direction of the commanding officer, will supervise the hygiene of the post or command, and recommend such measures as he may deem necessary to prevent or diminish disease. He will examine, at least once a month, and note in the medical history of the post, the sanitary condition of all public buildings, the drainage, the sewerage, amount and quality of the water supply, the clothing and habits of the men, and the character and cooking of the food, and immediately after such examination will report thereon in writing to the commanding officer, with such recommendations as he may deem proper.

Each permanent post has a hospital commensurate in capacity and personnel of the hospital corps with the strength of the command. Military hospitals are equipped with all appliances and scientific instruments for the proper care of the sick, for physical examination and the identification system adopted by the War Department. There is also in each post hospital a good working and reference library; all the best current medical literature is regularly supplied by the medical department. At posts the medical officer is always examiner of recruits and in charge of the identification records mentioned above, which consist of a finger-print and photograph system applied to soldiers on enlistment and also to military convicts.

The Surgeon-General's office may consider an officer's special qualifications and aptitudes when assigning him to a station, so that he may be sent to any one of the following general hospitals which are operated and controlled by the medical department: General Hospital, Washington, D. C.; General Hospital, Presidio, San Francisco, Cal.; Army and Navy General Hospital, Hot Springs, Ark., where hydrotherapy is used in those conditions to which it is particularly applicable, and the General Hospital, Fort Bayard, N. M., which is the army sanitarium for the treatment of tuberculosis. In addition to this, there are four schools for instruction of the hospital corps, which are organized into companies, under command of medical officers.

I wish to impress the medical man with the fact that there are opportunities in the army for a man to reach more than a distinguished standing in the medical profession. Mention need only be made of the work in Cuba of the Yellow Fever Commission, the triumph of sanitation which makes the building of the Panama Canal possible, and the work of the Board for the Study of Tropical Diseases in Manila. Medical officers have contributed largely to the text-books on medicine, surgery, hygiene and tropical medicine. In mentioning these things I point out that, although the workings of the medical department must necessarily be a routine system, yet the individual officer will find his life full of various interests and a variety of work which few experience in civil life.

I speak briefly of surgery in the army, since so many young men are attracted by a possible surgical career and have ambition to succeed in this line.

There is ample opportunity to learn and practice surgery in the army. Although the class of cases is more restricted than in civil life, since the army is made up of healthy men and the incidence of disease is low, yet there are many cases of injury and many imperative surgical cases. During my service of about twelve months as operating surgeon at one of the larger army posts in this country there were 28 major operations performed there. This list includes 12 appendicectomies, 2 appendicostomies for chronic amebic dysentery, 4 operations for the radical cure of hernia, 1 suprapubic cystotomy, 1 nephrotomy, 1 craniotomy, 1 enterorrhaphy for gunshot wound, and other operations in the line of general surgery.

In addition to these general cases, the venereal service contributed a large list of minor surgical operations.

MILD ATYPICAL TYPHOID FEVER; RESULT WITH BLOOD CULTURES*

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It is my purpose to make a brief review of sixty-eight cases of typhoid fever and the findings, by blood cultures, with special reference to the mild atypical forms. The study of these fevers, and the results obtained through blood cultures, is of great practical import. It clears them from the haze of doubt and places them at once where they properly belong. Many observers—

* Read before the Nashville Academy of Medicine and Davidson County Medical Society, Jan. 5, 1909.

Osler,[1] Dock, Vaughan[2] and others — have believed for a long time that these indefinite fevers would ultimately prove to be typhoid infections, and a great deal of clinical evidence has been brought forward in support of this belief, but it has not been sufficiently definite to satisfy all.

In 1908 I had published an article[3] in which I had studied clinically 200 cases of typhoid, with the idea of clearing up these indefinite forms. I gave in that paper evidence sufficient to convince any one who would approach the subject in a receptive state of mind, but I realized at the time it was yet open to argument. I said in that paper, among other things, the following:

> There is a class of continued fevers met with in the southern portion of the United States and in Panama, and no doubt in many other portions of the world, that are resistant to quinin; they are too long in their course to be malaria fever. They are too mild in their symptoms and too short in their course to meet the clinical requirements commonly expected of typhoid fever. . . .
>
> I am fully convinced that these fevers are typhoid fever, because their numbers always increase as the number of typical typhoid fevers increase. They occur in the same houses and same surroundings from which we meet or receive the typical cases; they frequently relapse, and the relapse may be, and often is, more severe than the initial attack. . . .

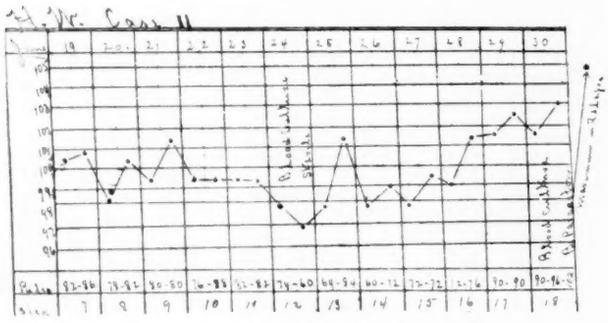

Chart 1.—Temperature in Case 2 (H. W.). Mild initial attack. Relapse of exacerbation, lasting 21 days.

In these irregular cases every opportunity is present for the spread of the disease. They are usually unrecognized as typhoid fever, and no effort is made toward disinfecting the patient's excreta; they are not reported to the sanitarian, and nothing is done toward general sanitation about the patient's surroundings. Contamination occurs, and there is then but one result—an epidemic. Thus these cases become the root from which this disease springs perennial, and are almost solely responsible for its continuance. . . .

Typhoid fever is a preventable disease, and should in time, like typhus fever, become extinct. This can never be until physicians widen their conception of what constitutes typhoid fever, and instead of always expecting the typical, diagnose and treat, from a sanitary point of view, all continued fevers as typhoid fever, until they are proved to be something else.

Everything claimed in the above has been fully borne out by the subsequent records with blood cultures, and it is extremely gratifying to me to find those claims so abundantly proved by this later and more definite work. This paper is largely a supplement to my original article, and I shall show in what follows my reason for the conclusions arrived at.

1. Practice of Medicine, Osler, Ed. 6.
2. Vaughan, Victor C.: Conclusions Reached After a Study of Typhoid Fever Among the American Soldiers in 1898; Oration on State Medicine, THE JOURNAL A. M. A., June 9, 1900, p. 1451.
3. Atypical Typhoid Fever; Its Part in Preventive Medicine and Its Differential Diagnosis from Estivo-autumnal Malaria, THE JOURNAL A. M. A., Feb. 22, 1908, L, 585-590.

ANALYSIS OF REPORTED CASES

I shall now analyze the sixty-eight cases and give a few case reports, with their charts, to show exactly the class of fevers I have in mind. The patients in this blood-culture work were negroes, and only one culture was made in each case.

The method of making these cultures was to aspirate from a vein in the forearm from 3 to 10 c.c. of blood, discharging this blood in an ox-bile medium. This was incubated, then plated, and the plated colonies worked out in the usual bacteriologic methods for identification and differentiation.

A number of comparative cultures were made on well-determined diseases, such as pneumonia, nephritis with elevated temperature, tuberculosis, and malaria; also on clinically obscure conditions. No cultures were returned positive under any circumstances except those with well-marked symptoms of typhoid fever, or the class of cases here under consideration.

In the 68 cases:

Positive blood cultures were obtained in 37, or 54.41 per cent.

Sterile blood cultures were obtained in 31, or 45.59 per cent.

Severe or typical forms were displayed in 67.64 per cent.

Mild or atypical forms were displayed in 32.36 per cent.

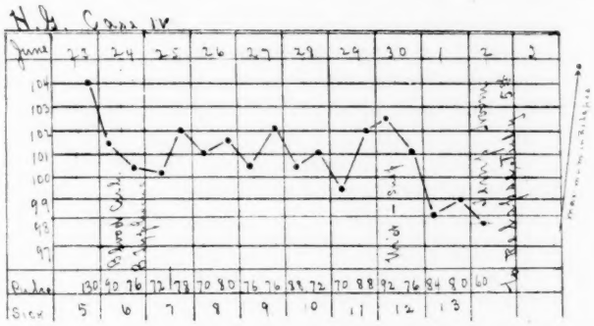

Chart 2.—Temperature in Case 4 (H. G.). Moderately severe, with malaria-like curve of temperature and relapse on twelfth day.

Of the positive cultures:

The findings showed *B. typhosus* in 31.

The findings showed *B. paracolon* in 6.

Severe cases yielded 28, or 75.14 per cent.

Mild cases yielded 9, or 24.86 per cent.

Widal tests:

Positive cultures yielded Widal + in 46.87 per cent.; Widal — susp., in 15.62 per cent.; Widal — in 37.50 per cent.

No test made in five cases.

Sterile cultures yielded Widal + in 41.37 per cent.; Widal — susp. in 34.48 per cent.; Widal — in 24.133 per cent.

No test made in two cases.

All the patients who died gave positive *B. typhosus* findings in antemortem blood, except one, who gave sterile culture and died of perforation a few days after culture blood was taken.

Complications:

Phlebitis—right leg, 4 times, left leg, once.

Relapses, 8.

Malaria organisms present in blood, 5 cases, or 7 per cent.

The longest course of fever (*B. typhosus*) was forty days.

The shortest course of fever (*B. typhosus*) was ten days.

The longest course of fever (*B. paracolon*) was twenty-eight days.

The shortest course of fever (*B. paracolon*) was eight days.

In one relapse from *B. paracolon* fever a positive culture of *B. typhosus* was obtained.

In one relapse (initial attack sterile) a positive culture of *B. paracolon* was obtained.

In one relapse (initial attack positive *B. typhosus*) *B. typhosus* was obtained.

In three relapses, cultures were returned sterile, and in two, which were so mild, no cultures were taken.

The total number of atypical cases, positive and sterile, was 21, or 32.36 per cent.

The Widal test in the positive cultures falls considerably below the standard, being 46.87 per cent. positive and 15.62 per cent. negative suspicious; counting both numbers as positive, which I think is proper, we get a total of 62.49 per cent.

The number of tests made to each case averaged a little over five. In two cases one test only was made, each returned positive. The largest number of tests to one case (positive *B. typhosus*) was twelve, all returned negative. The dry drop method was used, and the specimens were generally sent to the laboratory every third day.

In all the cases included as atypical the patients had fever less than fifteen days and were practically without symptoms which ordinarily characterize typhoid fever. The sterile cases included in the atypicals were diagnosed on positive Widals, or on two or more negative suspicious Widals, or such complications as phlebitis and relapse. All patients, no matter how mild the case, were kept in the wards under observation for fourteen days after the temperature became normal, and most of them were kept twenty-one days or over.

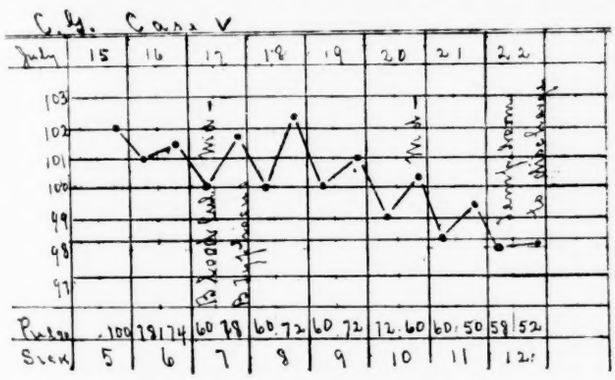

Chart 3.—Temperature in Case 5 (C. G.). Mild *B. typhosus* infection.

The analysis then shows 32+ per cent. atypical; or, if there is any doubt of the diagnosis of the sterile cases, let us take only the thirty-seven positive cases. In this instance we shall still find the proportion to be 24 per cent. atypical.

Inasmuch as we are unable to get positive cultures in all of even the most severe cases — for instance, the sterile case with perforation and pathologic diagnosis of typhoid fever,[4] we must feel some surprise that we get such proportion of positive cultures in these atypical cases as 9 to 12.

Reviewing this analysis, the conclusions reached are: that 60 per cent. of positive cultures will be the rule in average work, with one culture to each case; that the general average of atypical cases in typhoid fever is surprisingly high, and they demand more attention in the teaching of this disease than is usually given them; that the expected results in average work from Widal's test—as given in standard text-books, 95 per cent.—is too high; and that while the laboratory is our only means of clearing absolutely these indefinite fevers, we can depend, and must depend, largely on clinical findings, and on analogy, for the diagnosis in typhoid fever.

4. Records Pathologic Laboratory, Ancon Hospital, 1908.

REPORT OF CASES

CASE 1.—J. W., aged 34, from Barbadoes, was ill three days before admission. Complaint—fever, headache, cough, chills and vomiting. Physical examination, negative, except for some bronchitis. Tongue broad, flabby, with toothprints. Blood examination, negative for malaria parasites. Stool, negative; urine, negative. Blood culture made third day after admission; positive *B. typhosus*. Widal seventh day after admission, positive; eighth day, positive; tenth day, negative suspicious; thirteenth day, negative suspicious; fourteenth day, negative.

CASE 2 (Chart 1).—H. W., aged 23, from Barbadoes. Sick four days before admission. Complaint, sore throat. Examination, slight redness of pharynx, tongue coated, otherwise negative. Blood negative for malaria parasites. Leucocytes, 7,500. Old facial paralysis, right side. Blood culture, eighth day after admission, sterile. Relapse, blood culture, positive, *B. paracolon*. In relapse the fever continued for seventeen days. This illustrates a mild attack with a severe relapse.

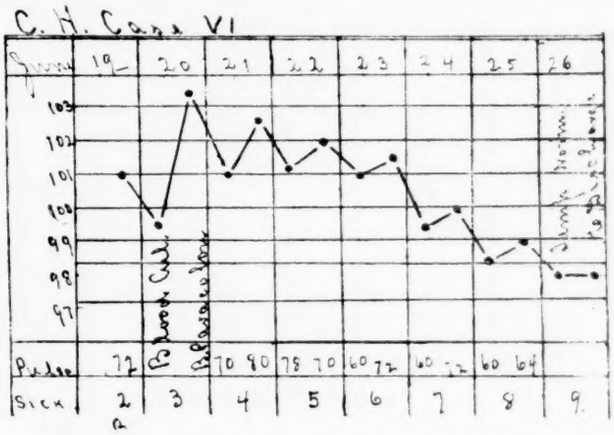

Chart 4.—Temperature in Case 6 (C. H.). Mild *B. paracolon* infection.

CASE 3.—A. F., aged 25, from Barbadoes. Sick four days before admission. Complaint, headache, fever and dysentery. Physical examination: lungs, sibilant and crackling râles, middle and lower lobes of right. Sibilant râles over left; spleen, palpable and tender; abdomen, tender over upper part. Tongue coated; other organs negative. Stool, negative; urine, trace of albumin and hyaline casts. Blood negative for malaria parasites. Blood culture second day after admission, positive, *B. paracolon*. Blood culture eighth day after admission, sterile. One Widal test, negative.

CASE 4 (Chart 2).—H. G., aged 23, from Barbadoes. Sick four days before admission. Complaint, headache, fever and constipation. Physical examination: soft, fine râles at the base of right lung; spleen, palpable; other organs negative, stool negative. Urine, slight trace of albumin, hyaline and granular casts. Blood negative for malaria; leucocytes, 7,800. Sputum, negative for tubercle bacilli. Blood culture day after admission, positive, *B. typhosus*.

CASE 5 (Chart 3).—C. G., aged 20, from Barbadoes. Sick four days after admission. Complaint, headache, fever and no appetite. Physical examination: negative, except spleen, slightly palpable; tongue, coated. Urine, negative. Stools, few degenerated epithelial cells. Blood negative for malaria parasites. Blood culture third day after admission, positive, *B. typhosus*. Three Widal tests, negative.

CASE 6 (Chart 4.)—C. H., aged 20, from Barbadoes. Sick one day before admission. Complaint, languor and loss of appetite. Physical examination, negative. Urine, trace of

albumin. Stools, negative. Blood negative for malaria parasites. Blood culture fourth day after admission, positive, *B. paracolon*.

DEDUCTIONS

The question will arise (this work having been done in Panama) whether such cases are present in the United States. In proof that they do occur in the United States, I cite H. F. Harris'[5] work at Atlanta, Ga., along the same line, in which he takes forty-five cases, the fever being one week and over, and in blood culture work finds 13.3 per cent. positive.

The question will also arise of the effects of malarial infection as a complication in typhoid fever. So far as I have seen, this complication amounts to nothing, except perhaps in the final prognosis. In the mild cases the malarial type of fever may predominate till eliminated by quinin, then runs its course as usual. In the severe cases the malarial type of fever is submerged, and quinin may be given without in any way modifying the symptoms or temperature curve. One patient—not under my observation—who had a very severe malarial infection on admission, was given 320 grains of quinin by hypodermic injections, without any effect whatsoever on the temperature or the symptoms. The patient died on the fifth or sixth day after admission, and at autopsy no malarial organisms were found in the internal organs, though malarial pigmentation of the bone marrow and spleen was present. The lesions found and cultures made from the splenic blood were positive for typhoid fever.[6]

The study of these cases will show at once what these indefinite fevers really are.

The cycle of evidence is now complete. Here are the bacteriologic findings; here are the records of cases and their clinical course, and the pathologic findings in the nine cases of death close the cycle and make it complete.

This work, too, ought to throw some light on malarial fever, that class of malarial fevers which is said to take on symptoms of typhoid fever—a theory universally accepted.

A review of these cases and charts will show that, instead of malaria simulating typhoid, exactly the reverse is true; it is mild typhoid fever in its febrile course that simulates severe malaria. The difficulty in the differentiation of these two diseases has been in the lack of facilities to make a positive distinction; and the fact that occasionally malarial parasites were found in the blood in these fevers has added to the confusion. With this last fact confronting us, and no other positive knowledge to get us out of the difficulty, we quietly placed the burden, along with other unknown things in medicine, on our favorite "pack-horse"—malarial fever—and so let it rest.

The lesson to be gained here then is that when we are confronted with a condition having typhoid symptoms, even though malarial parasites are present, the condition is typhoid fever, and always has been typhoid fever.

DIAGNOSIS

The diagnosis will not be difficult if we admit the occurrence of these fevers and are watching for them. Headache and fever are always present, and with these, one or more of three other symptoms may be present, namely, enlarged spleen, slight diarrhea and some narrowing and redness of the tongue. With any or all of the above-named symptoms present, and with no sufficient findings to account for them, we may suspect typhoid fever. Therefore, a diagnosis must be made by exclusion. When we are in doubt about malaria, quinin should always be given, and given in solution. If such a mild fever be caused by malarial infection, it will yield in forty-eight hours under quinin. If this fails, something else should be looked for.

PRACTICAL IMPORT

These fevers are not without importance to the patient. If the patient is allowed to be up and about, as he will certainly wish to be, this fever may continue for three or more weeks. But if he is put to bed, with rest, and on as rigid diet as we prescribe in the severe cases, the fever will subside in two weeks or less. Moreover, there is always a liability to a relapse that may be severe.

As we have seen that the proportion of these cases is not less than 25 per cent. and may be over 30 per cent., it is obvious what an important part they play in the spread of typhoid fever. Their chief importance, then, is from the viewpoint of sanitation, and they demand an early diagnosis, and just as rigid effort for complete cleanliness and care from the physician and sanitary authorities as the most severe cases. Just as widespread and just as severe an epidemic may spread from a mild case as from a severe one. This is well known from the general law of infectious diseases.

This percentage of cases, or even one-half of this percentage, constantly overlooked and diagnosed as malaria, or what not, will make it impossible ever to get rid of typhoid fever; focus after focus, from no one can tell where, will be formed to plague us, and it is no exaggeration to say that these cases are the root from which this disease springs perennial.

NOTE.—I am indebted for this blood culture and Widal work to the enthusiastic support and to the painstaking endeavors of Dr. Samuel T. Darling, Chief of Laboratory of the Bureau of Health and Pathology, Ancon; Dr. Thomas R. Brown, Bacteriologist, Ancon Hospital; to Lieut.-Col. John L. Phillips, Medical Corps, U. S. A., Superintendent of Ancon Hospital, for permission to publish this report, and to several of the nurses for copying charts, etc.

501 Wilcox Building.

5. H. F. Harris, Slow Fever, THE JOURNAL A. M. A., Aug. 3, 1907, xlix, 406.
6. Records Pathologic Laboratory, Ancon Hospital, 1907.

A STUDY OF THE ACTION OF SCOPOLAMIN-MORPHIN ON THE HEART, LIVER AND KIDNEYS

REPORT OF SIX HUNDRED AND FIFTY CASES OF SCOPOLAMIN-MORPHIN ADMINISTRATIONS PRELIMINARY TO GENERAL ANESTHESIA

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Scopolamin was discovered by Schmidt in Warbury in 1820 and at that time was obtained from a plant called scopola, named by Scopoli, the Austrian naturalist.

Scopolamin hydrobromid is an alkaloid now obtained from roots of various plants of solanaceæ (nightshade family), and is identical, chemically and physiologically, with hyoscin. This family includes scopola, belladonna, stramonium, hyoscyamus, etc.

When injected alone, scopolamin does not cause anesthesia, but in combination with morphin (in sufficient dose) it produces an anesthetic state.

The claim has been made that scopolamin loses its power if kept in solution, and this change in solutions of scopolamin a week old I have noted. But scopolamin in tablet form I have found reliable and see no advantage in using the crystals. For an injection as a preliminary to ether anesthesia I have used the tablets of scopolamin and morphin and these same tablets for animal experimentations.

PURPOSE OF USE

The object of the use of scopolamin and morphin in patients was first to produce complete anesthesia alone; then in case of failure, as sometimes occurs, it was necessary to use only a slight amount of chloroform or ether to complete the anesthesia. The purpose has been later to use it as a preliminary injection to ether or chloroform enesthesia, in order not only to decrease the amount of ether or of chloroform used, but also to prevent the distressing symptoms which so ofter follow anestheisa.

DEATHS ASCRIBED TO SCOPOLAMIN

A number of deaths have been reported after operation in which scopolamin and morphin have been injected previous to the administration of the anesthetic. I have separated them into (a) those in which a postmortem examination was made, and (b) those without autopsy findings.

DEATHS WITH AUTOPSY

DIRK[1] reported three cases, two cases of carcinoma of the colon and one of carcinoma of the rectum. The first two cases showed purulent peritonitis at autopsy. The third patient was in bad condition surgically, and the autopsy showed extensive metastases.

In these cases death took place several hours after operation and could not have been caused by the administration of scopolamin.

BLOS VON BRUNS[2] describes a case of tuberculosis and emphysema. The patient was fifty years of age and autopsy showed extensive lesions of tuberculosis and amyloid degeneration of the viscera. He could not say that scopolamin had anything to do with the death of the patient.

BOKES[3] reports three cases of death following the use of scopolamin. In only one case was an autopsy performed. This was an old osteomyelitis of the femur in which there had been great hemorrhage. He characterizes it as a desperate case and did not believe that scopolamin injections had anything to do with death.

SEXTON[4] had a patient with uterine fibroid who had had extensive hemorrhages. The autopsy was superficial and showed nothing.

ISREAL[5] reports three cases in two of which an autopsy was performed. The first was a case of tuberculosis of the kidneys; autopsy showed fatty degeneration of the heart and liver, and cloudy swelling of the remaining kidney. The second was a case of ruptured pyosalpinx; autopsy revealed extreme fatty degeneration of the liver, heart and kidneys. The spleen was not enlarged.

In the consideration of these cases there is not a single instance in which death can be attributed to scopolamin. They are all desperate cases. The time which elapsed before death took place after scopolamin was given is not stated in these reports. However, in many cases death occurred several days after the operation was performed.

1. Deutsch. med. Wchnschr., 1905, 10.
2. Beitrage zur Chirurgie, xxxv, 3.
3. Langenbeck's Archiv, xxiv, 4.
4. Lancet-Clinic, v, Nov. 18, 1905.
5. Deutsch. med. Wchnschr., 1905, No. 10.

DEATHS IN WHICH NO AUTOPSY WAS PERFORMED

FLATEAU[6] reports the case of a woman of 52 with polypus of the uterus. Clinically she died from edema of the lungs. No autopsy was performed.

LANDEN[7] operated on a patient with hemorrhoids who died a few hours later from collapse.

BOKES[8] reports two cases in which death occurred after operation. The first case was carcinoma of the uterus. The patient suffered severely from hemorrhage and shock. The second was a sarcoma of the neck in a woman of 50 years. Heart was sound, pulse good and there was no loss of blood. No autopsy could be obtained.

A. C. WOOD[8] reports an operation for prostatectomy in a colored man of 94 who died after the operation.

WITZEL[9] describes a case of prostatectomy in which scopolamin had been administered previous to operation, death being caused by septic infection.

WILD[10] reports a case in which untoward symptoms appeared after operation, but the patient recovered. He operated on an empyema of the antrum of Highmore and collapse with Cheyne-Stokes respiration followed.

These cases in which no autopsy was performed, death can in every instance be explained in some other way than by attributing it to the injection of scopolamin.

In this connection it is of interest to refer to the work of Bevan and Favill,[11] who described the occurrence of late poisonous effects after the administration of chloroform, manifested chiefly in a fatty degeneration of the heart, liver and kidneys. This condition may occur without the use of scopolamin.

REVIEW OF EXPERIMENTS ON ANIMALS

Very little animal experimentation has been done with scopolamin and morphin since they have been injected preceding the administration of the general anesthesia. Most of the work with this drug has been done by chemists, consequently little notice of its pathologic effects has crept into medicine.

Whitacre[12] has given dogs, cats and guinea-pigs repeated injections of scopolamin and morphin, and in a preliminary report states that it produces fatty degeneration of the liver and kidneys, and in two cases, probably of the heart also. Kochman[13] states that he has seen no death resulting from its use in patients, and that as much as thirty grains injected into a rather large dog will not cause the death of the animal.

Because of these meager results I determined to find out the effects of scopolamin and morphin injections on animals.

ANIMAL EXPERIMENTATION WITH SCOPOLAMIN AND MORPHIN

1. *Experiments on Rabbits.*—The injection of a single dose of scopolamin gr. 1/100 and morphin gr. 1/4 simultaneously into rabbits, produces a stupor lasting four or five hours and followed by complete recovery. When such an animal is killed the following day no pathologic change can be found. When rabbits are injected daily for as long as fourteen days and then killed, no lesions are produced. Such animals do not lose in weight and to all appearances remain perfectly normal. The killing of such injected rabbits on successive days shows nothing abnormal. The injection of a larger amount of scopolamin and morphin produces no differ-

6. Muenchener med. Wchnschr., 1903, No. 28.
7. Deutsch. med. Wchnschr., 1905, No. 28.
8. American Medicine, No. 11, 1905.
9. Muenchener med. Wchnschr., 1902, No. 48.
10. Berlin klin. Wchnschr., 1903, No. 9.
11. THE JOURNAL, Sept. 2, 1905.
12. New York Med. Jour., 1906, p. 637.
13. Therapie der Gegenwart, May, 1903.

ent results, except that the resulting stupor is prolonged. I have injected daily scopolamin gr. 1/50 and morphin gr. 1/2 for ten days into rabbits, with no change in the physical condition being produced and no lesion on killing such animals after repeated injections. The toxic or fatal dose of scopolamin and morphin for rabbits, when injected in the same proportion as used in patients, previous to the administration of ether, is scopolamin gr. 1/10 and morphin gr. 2 1/2. This amount appears to be the average fatal dose for rabbits with evidence only of morphin poisoning. Any large healthy rabbit dies after a number of hours from such an injection. The postmortem changes in rabbits which have been injected with a fatal dose of scopolamin and morphin are practically those of asphyxia. Examination shows the heart, liver and kidneys of rabbits killed by a toxic dose of scopolamin and morphin to be congested.

2. *Experiments on Guinea-Pigs.*—I have injected guinea-pigs with scopolamin and morphin in the same manner as the above described experiment on rabbits. Single or repeated daily injections for a period of fourteen days produced no pathologic changes. The repeated daily injection of twice the dose given patients by me as a preliminary injection of ether narcosis is well borne. When such animals are killed after successive injections on from one to fourteen days no lesions are produced. The fatal dose is the same as that for rabbits, and the autopsy on a guinea-pig dead of a toxic fatal dose of scopolamin and morphin shows only congestion of viscera.

3. *Experiments on Cats.*—I have injected scopolamin and morphin into a limited number of kittens. The repeated daily injections produce no degeneration of the heart, liver or kidneys. The fatal dose for kittens was found to be scopolamin gr. 1/5, morphin gr. 5, death resulting from morphin. The injection of a single dose of morphin gr. 1/4, scopolamin gr. 1/100 into a kitten is followed not by sleep but by excitement. The animal staggers about and remains aroused for several hours. This action was not produced in other animals. The injections of larger doses, twice or three times the ordinary dose, does not cause a more marked period of excitement. Continued daily injections seem to produce a tolerance for the drug.

4. *Experiments on Dogs.*—I have injected scopolamin gr. 1/5 and morphin gr. 5 into a small dog, causing death. The postmortem findings were those of asphyxia. The effects of injections of scopolamin and morphin into animals are similar to those of morphin when given alone. It was therefore necessary to try the effect of scopolamin without the addition of morphin.

Injection of Scopolamin Alone.—The daily injection of scopolamin gr. 3/100 to gr. 1 1/20 into rabbits, guinea-pigs and kittens produced no pathologic changes even when continued for two weeks. The heart, liver and kidneys of such animals when killed after fourteen injections are normal. The fatal dose of scopolamin for these animals I have not determined. I have given a small cur dog scopolamin gr. 5 without causing death. Small kittens when injected on two successive days with scopolamin gr. 3 did not succumb. When killed, at autopsy, no pathologic changes in the heart, liver and kidneys were present. It is apparent that enormous doses of scopolamin can be given to animals without causing death.

Injection of Morphin Alone.—In order to determine the result of morphin without scopolamin a number of rabbits were injected with morphin 1/2 gr. The onset of the symptoms was not earlier than half an hour. The rabbit becomes quiet, nose and ears appear cyanotic, the respiration becomes less rapid. These symptoms increase in intensity for about thirty minutes and then the effects begin to wear off. On rough handling the animal is easily aroused and at no time is narcosis so intense that the animal may be cut or operation done as when the morphin is combined with scopolamin. After injections of rabbits for several days the drug does not produce such marked symptoms as with the first injection. They apparently acquire very rapidly a tolerance for morphin. When guinea-pigs are injected with morphin the symptoms which are identical with those of rabbits appear a little earlier. At the end of twenty minutes the animal is in a state of quiet, eyes remain wide open and it is cold. It can be readily aroused and if pain is inflicted will protest. The sleep is of short duration, lasts about half an hour. They do not acquire tolerance so rapidly as rabbits.

Injection of Morphin and Atropin.—When morphin gr. 1/4 with atropin 1/100 are injected into a rabbit the narcosis produced is not so intense as when morphin is injected alone. Atropin inhibits in some degree the effect of morphin. The animal is easily aroused.

Injection of Atropin Alone.—Atropin sulphate injected into rabbits in doses of from 1/100 gr. to 1/200 gr. produces rapid respiration and marked excitability.

SUMMARY

I have killed my animals after injection on successive days, so that I had the opportunity of examining the viscera daily after successive injections—from one to fourteen days. This was done in order to see if any change was produced in the heart, liver or kidneys by the injections, and after what injection it took place.

The result of my experiments show that in death from scopolamin and morphin the findings are those of passive congestion. I can not confirm the observations of those who are able to produce fatty degeneration of the heart, liver or kidneys.

Animals bear hypodermic injections of scopolamin and morphin well. If such injections are given repeatedly at long intervals it does not interfere with the nutrition of animals unless doses are so frequently given that the animals experimented on remain more or less constantly under its influence, that is, in a comatose or semicomatose state.

The study of these results show:

1. The effects of the injection of scopolamin and morphin into animals is similar to that of morphin when given alone, with the exception of the injection into kittens, in which excitement instead of sleep was produced.

2. Continued repeated daily injections produce no degeneration of the heart, liver or kidneys, the physical condition is not impaired so long as the injections are given at such intervals as not to interfere with the animal's nutrition. Daily injections of from one to three times the dose given to patients produces no pathologic changes in animals.

3. The toxic dose of scopolamin and morphin in my experiments corresponds very closely to that of morphin alone for the animals used.

4. The autopsy findings in animals which succumb to a toxic dose are the same as those for morphin, i. e., congestion of the viscera.

5. My animals seemed to acquire a tolerance for the drugs on long-continued daily administrations.

The cause of death in patients who have died after operation and who were previously given scopolamin has been more readily explained as due to great loss of blood during or before operation, to sepsis or to shock. They have been desperate cases and in not a single case could scopolamin be said to have produced death.

Scopolamin by itself is very slightly toxic for animals and certainly does not produce any degeneration of the heart, liver or kidneys.

REPORT OF 650 CASES OF SCOPOLAMIN-MORPHIN ADMINISTERED AS PRELIMINARY TO GENERAL ANESTHESIA

I have injected scopolamin gr. 1/100, morphin gr. 1/4, three-quarters of an hour before administration of ether as a preliminary to general anesthesia in 650 cases. In this series the extremes of life have been avoided. In 6 per cent. of cases there has followed practically no result, but in the remaining 94 per cent. I have noted a quiet state of the nervous system previous to operation that there has rarely been an instance in which the patient became excited or struggled during the administration of the anesthetic, the absence of mucus in the patient's throat, a lessening of 50 per cent. of the amount of ether used, the existence of quiet for some hours following operation, and the absence of postoperative vomiting.

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THE NEED FOR A SCHOOL OF TROPICAL MEDICINE IN THE UNITED STATES

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Now that the time has arrived when the English and German schools of tropical medicine may celebrate their decennial year, it is fitting again to bring up the question of establishing a school of tropical medicine in this country. I say "again," because nearly all of our leading medical journals ten years ago advocated the establishment of a course of tropical medicine in every medical school, and they have kept occasionally reminding us ever since of the importance of such study. Two well-known journals, one in 1898 and the other in 1899, advocated the establishment of a special school for the subject. Let us see what objections have been made to such a school.

The chief arguments used against the establishment of a school of tropical medicine are: 1. The government already has three, the medical schools of the army and navy and the laboratory of the Public Health and Marine-Hospital Service. 2. The subject is of very little importance to general practitioners, except those living in cities. 3. The United States has but little commerce with the tropics. 4. The subject is of vital importance only to government agents abroad. 5. There is already a good laboratory and medical school at Manila where tropical diseases may be studied. 6. The subject is better taught by the several departments, whose fields the subject touches rather than by a special department. 7. There is but little clinical material for teaching purposes in such a place as Boston, for instance.

In answer to the first argument, it is interesting to note that in England when Mr. Chamberlain, then secretary for the colonies, proposed to establish in London a special school of tropical medicine where colonial medical officers and other civil practitioners might receive instruction, the objection was immediately made that the colonial medical men could be better taught by the army at Netley, or by the navy at Haslar. The other civil practitioners were already provided for by the various medical schools and bacteriologic laboratories then in existence. The reply to the first was that the courses given by the army and the navy, however well adapted they might be to officers of these services, were unnecessary and unsuitable for candidates for the colonial medical service.

This answer is equally true for the United States, for the medical schools of our army and navy can hardly be called schools of tropical medicine. They do teach tropical medicine, it is true, but that is but a small part of the instruction. The laboratory of the Public Health and Marine-Hospital Service is another institution where tropical medicine is merely one of the subjects studied, and not the main subject. To confine the work of this laboratory to the study of tropical diseases alone would be to defeat the purpose for which the laboratory was established.

Mr. Chamberlain, despite the criticisms from the army and the navy, established what is now known as the London School of Tropical Medicine. This school has not only served to instruct future British colonial medical officers and civil practitioners, but has taught medical officers of the British army and navy who first objected to it. Among the foreign graduates of this same school from 1905 to 1908 may be noted three surgeons of the United States Army, and two surgeons of the United States Navy. The United States officers evidently took the course because it is not taught in this country with that "particularity needed for success."

The subject of tropical medicine is every day becoming more important to the general practitioner, whether he be in the city or in the country. This is largely due to increase in travel, the return of discharged soldiers and sailors, missionaries, teachers, people connected with our diplomatic and consular services, people of leisure, engineers and merchants. Such people are as likely to return to the country as to the city. It must be remembered that malaria is common in the temperate zones; that filariasis (easy of diagnosis in the later, but often missed in the earlier stages of the disease) has been reported in persons who have never been south of Mason and Dixon's line, and that last summer a case of amebic dysentery was found in a woman who had always lived in Nova Scotia previous to coming to Boston.

The commerce of the United States with the tropics is large. In 1906 our imports from warm countries were two-thirds and our exports one-half that of Great Britain, who owns one-fifth of the earth and governs one-fifth of the people of the world. Our trade with warm countries amounts to hundreds of millions of dollars. During the past year thirty-four ships have come to Boston from India, and at the present time there are three in port from the far east.

It is a mistake to say that tropical medicine is of vital importance only to government agents abroad. Our whole army consists of only 63,000 men, and more than half this number were lost by discharge last year. The total number of men in the navy is 39,000, and of this number 11,000 men were lost in the same manner. The greatest force of men in the tropics is kept

in the Philippines, where there are about 12,000 soldiers. The large number of discharges from these small fighting forces means that the burden of the future treatment of these men is going to fall on the general practitioner of the United States. It is obvious that tropical diseases are of vital importance to civil practitioners in the tropics. The medical schools of Manila recognize this. It must also be remembered that southern United States is semitropical and that civil practitioners there must have a thorough knowledge of the subject.

That there is a good laboratory and medical school at Manila for the study of tropical diseases should not be a reason for failing to establish one in this country. Manila is more than a month distant from us, and few medical men would care to spend the time and money in going there for instruction. Physicians who intend to practice there should be taught before they go.

If tropical medicine is divided among the various departments of a medical school it will lack that thoroughness and completeness which is essential to success. Perhaps few, if any, of the instructors have seen many tropical diseases or have any special interest in them. Most of their time is taken with teaching other branches of their special work or with outside interests. The subject should be put in charge of a man who is willing to devote his entire time to this work; when not teaching he should be engaged in research. Arrangements and funds should be such as to allow him to visit the tropics every few years.

The number of cases of tropical diseases in such a place as Boston is greater than commonly supposed. As soon as the general practitioner gets better instruction he will recognize and report cases more often. Clinical material is not the only essential in studying tropical medicine. Much may be learned without it. Mosquitoes may be studied at home, and various bacteria and many of the animal parasites can be carefully studied in the laboratory. Another method of studying disease is by animal experimentation. By this means the life history of the organism, the symptoms, the methods of diagnosis, the pathologic histology and the treatment may be learned, often with more satisfactory results than in the human being.

Eleven years ago special instruction in tropical medicine was given in twelve British medical schools. Today in the United States there are only five medical schools giving special instruction during term time, and much of this consists of a few optionally-attended lectures. Is it not high time our country waked up and gave instruction in this important branch of learning?

7 Bay State Avenue.

Prophylaxis of Caisson Disease at Amsterdam.—The foundations for the great central depot at Amsterdam have required 800 days of caisson work and yet not a single life has been lost nor permanent incapacity resulted in any case. The laws regulating caisson work are very strict in Holland, and constant medical oversight is required. A number of advanced medical students were employed and physicians were always within easy reach. According to a correspondent of the *Wiener klinische Rundschau* (Jan. 20, 1908), some workman was affected on an average every fourth day. Pains in the muscles or joints were observed in about 100 cases, paresis in 4, the Menière syndrome in 3, vertigo in 4, and ear or other affections in 10 cases, besides numerous cases of intense itching. The symptoms were generally cured by returning into the compressed air and having the pressure gradually reduced.

Clinical Notes

A SATISFACTORY METHOD FOR STAINING BLOOD SMEARS

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THE VALUE OF BLOOD SMEARS

To the practicing physician the most important feature in all blood examinations is the stained blood smear. It is also the most exact of the hematologic findings. It is as important in all abnormal conditions of the blood (the infectious and chronic diseases, as well as the so-called blood diseases) as a stained tissue in the diagnosis of a pathologic growth. It gives the eye a true picture of the conditions present which the mechanical blood findings fail to convey.

It is to be regretted that with many it simply stands for the differential leucocyte count and occasionally a search for parasites or enucleated red cells. On the other hand, it is, indeed, the most comprehensive of all blood findings, for it includes in itself the mechanical as well as the pathologic findings, while it requires the least time, the least technic, is the least subject to errors in technic, and is the only one of the blood findings which can be permanently preserved, verified at a future date, or sent for verification elsewhere. After a little experience an approximate estimation within clinical limits of the number of red cells and leucocytes, the hemoglobin percentage, and the color index is possible. Added to all these advantages of the blood smear is the evidence of the shape, size, color (chemical), and histologic changes in the cells themselves, the appearance of abnormal cells and cells in abnormal members (so often pathognomonic), the phagocytic powers of the leucocytes, and the presence or absence of blood plates with, indeed, something of the relative frequency of the latter (with the corresponding prognostic value in hemorrhage or thrombosis).

INDICATIONS FOR BLOOD SMEARS

Every case which presents fever or pallor in its course presents an indication for a blood smear. Occasionally a blood smear has a negative value as well.

THE METHOD OF STAINING

To obtain the results indicated above, it is clear some very satisfactory method is needed. The method here given is simply the old Romanowski stain (polychrome eosin-methylene blue) as further modified by Jenner (the use of methyl alcohol as the diluent). The Jenner-Romanowski stain has been subjected to many further modifications. Locally, in the schools and hospitals of Chicago at least, the particular modification here recommended has been known for several years as the Skelton stain.[1] It has been my experience, however, to find that many do not have as good success as might be wished with this stain. This is due to the fact that

1. Priority for the so-called Skelton blood stain belongs, I believe, to Dr. William P. Harlow, who first described the principle of the stain (Am. Jour. Med. Sc., April, 1904, p. 662). Peebles and Harlow again call attention to this stain in their recent article (Clinical Observations on Blood Stains, THE JOURNAL A. M. A., March 6, 1909, p. 768). My technic for the use of this stain applies the same principles. I believe that, after being given a little more publicity, the Harlow stain will supplant all the common blood stains now in use.

certain simple features in the technic are indispensable. I present here in detail the method of staining blood smears which I have used for the past four years and have demonstrated to medical students during this time, with the result that four out of every five have succeeded in making satisfactory stains on the first attempt, and this within five minutes' time.

The staining solutions are two in number and are made up by the physician himself: 1, About one gram of water-soluble eosin (Grübler) is dissolved in 100 c.c. of absolute methyl (wood) alcohol (Merck or Kahlbaum); 2, one gram of the ordinary Ehrlich's medicinal methylene blue (Grübler) is dissolved in 100 c.c. absolute methyl (wood) alcohol. These two stains are kept separate in ground glass-stopper bottles of 100 c.c. capacity. They are ready for use immediately, though it is preferable to wait a few hours for a more complete solution of the dyes. Both stains as thus made are supersaturated. There is always some insoluble residue as well.

Blood smears are made by the cover-slip method: that is, one cover-slip is touched to the fresh drop of blood and another immediately laid crosswise of this with the corners projecting until the film has spread almost to the edges, when the cover-slips are quickly slipped apart by the fingers or forceps and dried immediately by shaking in the air, one slip in each hand. Thus two dried films are made. These are ready for staining at once, though they may be carried around for several days, care being taken that flies are kept away from the film side, as they rapidly eat up the dried corpuscles.

The staining is done away from the air, this being the secret of success of the whole process. This is to prevent the evaporation of the absolute alcohol, which produces a rapid precipitation of the dyes and so spoils the smear for subsequent examination. To effect this, ordinary watch-crystals may be used, the stain poured in one and another inverted over it to cover it. As these are rather awkward to handle, however, the Syracuse flat-bottomed watch-glasses, which may be piled one on the other, are ideal. In staining a smear made on a glass slide instead of on the cover-slip the slide may be dropped directly into a wide-mouthed bottle containing the staining solution and the bottle stoppered at once.

TECHNIC

A. A little of the eosin solution is poured into a watch-glass, the dried blood smear dropped into it, preparation side downward, and covered immediately with the second watch-glass. This is left from one-half to one minute. A little of the methylene-blue solution is poured into the second watch-glass and this covered with a third. B. At the end of the minute the cover-glass is removed from the eosin solution by means of a blunt-pointed forceps and dropped face downward at once into the methylene-blue solution. Here it remains the same length of time. C. The cover-glass is now picked up by the edge with the forceps and rinsed rapidly three or four times in a small beaker of tap water, provided this water is of the surface variety; otherwise distilled water or rainwater should be used. D. The edge of the cover-slip, still grasped, is touched to a piece of filter paper to drain off the excess of water, after which it is quickly blotted dry between two pieces of filter paper. It is mounted, preferably in cedar oil, and examined either with a sixth, eighth or twelfth objective. The stains are poured back in their respective bottles immediately after use. None of the stain is ever thrown away.

ADVANTAGES OF METHOD

This method is not a new one, but I wish to emphasize the fact that it is by far more reliable and satisfactory to the busy physician than many of the newer methods, Leishman's, Wright's, Hastings', Nocht's and other modifications of the old Romanowski stain; and, further, it stains the red corpuscles directly in proportion to the amount of hemoglobin they contain.

Among other advantages are these: The physician prepares his own dye solutions, the time required being probably ten minutes. There are no difficulties, such as uncertain titrations, neutralizations, filtrations, etc., to contend with. The stains are used over and over again: the older the stain becomes the clearer, sharper and more rapidly it stains. No previous fixation of any kind is necessary; rinsing and washing between the stains is contraindicated. The apparatus necessary is of the simplest, viz., three Syracuse watch-glasses (recommended, but not necessary), a small beaker and a pair of forceps. The total time required for staining an ordinary blood smear need not exceed three minutes. The staining itself can be accomplished in one minute. Again, the stain is of the polychrome variety, no subsequent counter stains being necessary to bring out eosinophilic, neutrophilic or basophilic granules. As Romanowski says, it is an ideal stain for the malarial parasite. It is also for the commoner organisms. It is an ideal stain for the differential leucocyte count. All nuclear matter takes an intense diffuse blue stain, hemoglobin a red stain, neutrophilic granules a reddish-purple (pepper grains), eosinophilic granules a scarlet (red currants, i. e., the same color as the surrounding red cells), basophilic granules a blue-black (bird shot). Blood plates are seen in clumps in the clear spaces and stain a pale violet. Malarial pigmentations remain unchanged. Ordinary bacteria take the methylene blue. All the above features are contrasted in the field in a very striking way. There is no "washed-out" appearance.

PRECAUTIONS

The only precautions are these: 1. The blood smear should be properly made and rapidly dried (see any text-book on hematology). 2. The dye solutions should be kept at all times under cover. 3. The ingredients used should be reliable. I have rarely found any difficulty with the makes of dyes or alcohol noted above.

It is best never to buy more than a ten-gram sample phial of each of the dyes. This is a very small expense, and a good sample (tested by its staining abilities) should be set aside and kept for this stain alone. Five hundred cubic centimeters of absolute methyl alcohol will suffice for all time. The sum of $2.00 will secure enough ingredients to last a lifetime. Any failure in the ingredients is easily detected. If the hemoglobin in the red cells is not stained well in at least two minutes' time the eosin sample is usually worthless. Occasionally such a solution improves on standing for two or three weeks' time. If the methylene-blue solution does not bring out the nuclei of the leucocytes in good sharp contrast to the protoplasm and its contents in two minutes' time, it should be dispensed with for a new sample.

It is to be noted that this stain does not bring out the chromatin network in the nucleus as does Wright's

stain and other similar stains wherein a neutral dye (azure-blue) is produced, but this is of no value to the physician and is apt to be confused by the less experienced with the granules in the cytoplasm.

It is easy to test the purity of the methyl alcohol in regard to water contents. It should be at least 99 per cent. pure. Such a sample shaken up with about a gram of powdered anhydric copper sulphate in a test-tube and allowed to stand for four hours should show no blue color to the solution and only a bare trace of green in the copper sulphate sediment in the bottom of the test-tube at the end of that time. A more accurate test is to shake equal parts of the alcohol and benzol together when any turbidity of the resulting solution proclaims the presence of water. In case of failure with either of the stains it is usually best to test the alcohol first, as I have more often found this at fault than the dyes themselves. One peculiarity that may be noted is that if an absolute methyl alcohol can not be obtained, but one which is at least 95 per cent., the alcohol-soluble eosin (Grübler) will often make a very satisfactory stain where the water-soluble eosin fails.

It will be noted from the method given above that a little of the eosin is conveyed by the cover-slip each time into the methylene-blue solution. This is no detriment, and is, in fact, I believe, one of the reasons why the latter solution improves "with age." I have had no success, however, with direct admixture of the two dyes either in equal proportions or various proportions. It is to be noted that this is the scheme of the Jenner stain except that the addition of distilled water is made and a new dye substance (neutral dye) is really formed.

In my experience the presence of water in either of the staining solutions accounts for the uncertainty of the stains at various times, their tendency to deteriorate, and for the failure to bring out the nuclei, especially of the large mononuclear forms, and to stain the granules in the myelocytes. Stains made up at various times will vary somewhat in the intensity of their reactions, but the propensities of any given sample are quickly learned, and as the dye is used over and over again the original 100 c.c. solution will last many months if not years. On account of the supersaturation all that is necessary when the dye gets down near the bottom of the bottle is to render more of it soluble by the addition of methyl alcohol. I have some stain at hand which is over four years old and will stain thoroughly in ten seconds. It will not overstain if left several hours.

SUMMARY

1. The stain for blood smears here advocated for busy physicians is a modified Jenner-Romanowski (polychrome eosin-methylene-blue), commonly called Skelton's stain.

2. This stain consists of only three ingredients (methyl alcohol, eosin and methylene blue) and is made up by the physician himself in ten minutes' time.

3. The following directions embody the secret of success with the Skelton stain: 1. Keep the two dye solutions separate. 2. Stain away from the air. 3. Use pure methyl alcohol and keep the stains uncontaminated with water.

4. Advantages of the stain and method are: 1. Rapidity—one to three minutes for the entire process. 2. Simplicity—no special technic, no guess work, no "eye on the watch." 3. Impossibility of overstaining. 4 Polychrome staining — acidophilic, basophilic and neutrophilic properties brilliantly contrasted as well as pathologic discolorations. 5. Red cells stained in direct proportion to amount of hemoglobin carried — a Tallqvist scale on a microscopic principle. 6. Staining of the blood plates. 7. The ideal parasite and bacterial stain for blood smears. 8. Improvement with age; the stain never deteriorates. 9. Inexpensiveness—the same stain is used repeatedly — one to two dollars will buy enough of the ingredients for a lifetime practice.

5. Indication for blood smears: fever or pallor.

6. The physician is urged to make a blood smear (preferably cover-slip) at least in every case where indicated, whether other blood determinations are made or not; for (1) some idea of the number of erythrocytes and the percentage of hemoglobin (in ordinary anemias) can be readily attained; (2) the color index and the leucocyte count can be estimated well within clinical limits; (3) the differential leucocyte count, poikilocytosis, parasites, etc., in other words, the true pathologic picture can be obtained in no other manner; and (4) a permanent record of all these findings is gained which has been easily obtained, and an indication and stimulation for more blood work where necessary.

A CASE OF TETANY TREATED BY CALCIUM SALTS

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In a recent issue of THE JOURNAL[1] attention was editorially called to the relation between calcium metabolism and tetany, and reference was made to a paper by MacCallum and Voegtlein[2] on the subject. In a preliminary report by these authors, appearing last year,[3] I was first made aware of the importance of calcium in tetany, and was prepared to apply clinically the experimental principles evolved by these writers should the occasion arise. Such an opportunity has presented itself, and the purpose of this article is to put on record clinical observations which may be of interest and importance.

I have no intention of venturing on an elaborate discussion of the whole question of tetany in a paper primarily simply a case report; but a brief preliminary summary of the work referred to above is necessary, in order to make evident the bearing of the findings in this case. Tetany is a condition which has been observed to arise in connection with a number of disorders. It may be associated with gastrointestinal disturbances, particularly gastric dilatation, with lactation, with acute infections, and after thyroidectomy. It is characterized by intermittent tonic contractions of the voluntary muscles, which in severe cases may be associated with great disturbances of respiration and a comatose mental state. The most typical contractions are those occurring in the hands and arms, the fingers being firmly pressed together, stiffly extended at the interphalangeal joints, but flexed on the hand at the metacarpal-phalangeal articulations. The thumb is opposed tightly against the palm and the hand flexed on the wrist. This posture has been termed the "obstetric" hand, as the position is much like that assumed in manual dilatation of the cervix. Without detailed dis-

1. THE JOURNAL A. M. A., Jan. 30, 1909, lii, 388.
2. Jour. Exper. Med., 1909, xi, 118.
3. Johns Hopkins Hosp. Bull., 1908, xix, No. 204, p. 91.

cussion of the theories as to the etiology and pathology of the disease, the facts to which I wish to call attention are the following:

The cases of tetany following thyroid operations have been satisfactorily shown to be due to destruction of the parathyroids. In animals experimentally deprived of the parathyroid glandules tetany develops. In studying the metabolism of such cases MacCallum and Voegtlein discovered that there was a profound disturbance of calcium relation, and that the animals lost this element rapidly by excretion, the calcium contents of the blood and tissues being much reduced. The animals improved on an increase in the ingestion of calcium salts. From these data the two authors referred to have postulated certain hypotheses. They suppose that the internal secretion of the parathyroid presides over calcium metabolism in some manner, and that when this secretion becomes deranged there is a consequent disturbance in the use of calcium by the tissues. The removal of the glands obviously precipitates such derangement. But it may also arise in consequence of the changes associated with lactation, the puerperium, gastric dilatation, etc. This, in brief, is the central idea presented. It has been elaborated considerably by theories as to how the disorder of the parathyroid may occur in various clinical cases, and as to the specific functions of calcium salts, but the elementary conception is as just described.

With this outline of the relation between calcium and tetany, I will proceed with the following case report:

History.—The patient was a white girl, aged 8. She was sent to the University of Virginia Hospital by Dr. F. L. Thurman, of Keswick, Virginia; was admitted Sept. 8, 1908, at about 11 a. m. Her family history was unimportant. For some months the patient was subject to frequent attacks of abdominal pain, most intense in the epigastrium. There was loss of appetite, but no definite nausea and no vomiting. These attacks were relieved by various home remedies. The child was otherwise healthy.

Present Illness.—The patient went to bed the night before admission apparently well. There was no history of indiscretion in diet. In the morning, on arising, she complained of one of the attacks of abdominal pain noted above, and was given a small drink of whisky and put to bed. About an hour afterward the mother's attention was called to the child by hearing her groan. She was found comatose, and seized by one of the convulsive attacks to be described later. Her physician was called, who sent her immediately to the hospital, the patient arriving less than five hours after the onset of the trouble. During this interval she was in the condition now to be noted.

Examination.—The patient was well nourished, of good color, and general healthy appearance. A careful search failed to show any lesion that might have been portal of entry for tetanus. The child was semicomatose, failed to answer questions, and uttered no sound except an occasional groan. There was no fixed attitude of face or body. At intervals of from five to fifteen minutes, however, there was a convulsive seizure lasting several minutes, with marked rigidity of neck and jaw, and opisthotonos. The jaw was sometimes closed and sometimes open, but always rigid during attacks. When the jaw was open the tongue was forcibly protruded. During these seizures the patient groaned with pain, and became cyanosed and dyspneic. The most peculiar feature of these attacks was the behavior of the extremities. The arms were always rigid, sometimes extended, sometimes flexed at the elbows, but the hand and wrist always took the position known as the "obstetrical" hand. The feet were also forcibly extended. The eyes were held half-closed, and rolled far out on either side or upward or downward, but never with strabismus or nystagmus. The knee-jerks and other reflexes were somewhat exaggerated but there was no clonus anywhere. Temperature was 101 degrees, pulse 135 per minute, the tongue coated, chest clear, the abdomen negative, except for some fulness. Trousseau's phenomenon of induced spasms of the hand by compression over nerves and vessels of the arm was doubtful. A partial contraction was produced, but not a complete reproduction of the typical position. Chvostek's nerve-tapping sign was negative. The child voided involuntarily in small amounts. Swallowing was impossible

Treatment.—The patient was chloroformed during the convulsion and calcium treatment started at once. A subcutaneous infusion of normal salt solution to which 30 grains of calcium lactate had been added was given, and every four hours 10 grains of the same salt were administered in milk through a nasal tube.

Course of Disease.—The condition of the patient remained about as described for nearly twenty-four hours. At 1 a. m., September 9, convulsions became gradually less, and the last one occurred at 3 a. m. After this the patient fell into a stuporous sleep which lasted until about 7 p. m., the patient only arousing when the nasal feeding of milk and calcium lactate was given. During the evening of September 9, the patient was awake in a drowsy condition. At 1 a. m. of September 10 she responded to her name and spoke a few words for the first time. During September 10 she was apparently much better except for marked mental dulness, and that night she slept well. During this day she could swallow and talk, and the next day seemed practically well. She was discharged from the hospital September 12, 1908, the calcium being kept up to the last.

The report of our case affords no justification for drawing any general conclusions, but it presents several facts of interest. First, as to the diagnosis: Tetanus and hydrophobia can be excluded as possibilities by the history, symptoms and conclusion of the case. Strychnin poisoning, which was suggested by the onset closely following the drink of whisky, is excluded by the dull mental condition, lack of sensory stimulation, and absence of any ill effect following the drinking of the same whisky at approximately the same time by other people. The diagnosis between hysteria and tetany was more difficult. The absence of any previous hysteric condition, the temperature, pulse-rate and general appearance of the patient made against hysteria. On the other hand, the clinical picture was identical in every particular with that of a severe attack of tetany, excepting the equivocal Trousseau's sign and the absence of Chvostek's phenomenon. I did not determine the size of the stomach and so can not say whether it was dilated or not. The incontinence and tossing of the patient made the collection of urine impossible during the first part of the attack. When it was examined, during convalescence, it was found normal. The patient has been followed since her discharge and has remained entirely well. In the event of a second attack the doubtful points just noted will be again investigated.

In conclusion, while not drawing deductions by the formula "Post hoc, ergo propter hoc," the following facts are clear: A case of tetany of unusual severity and intensity cleared up in a remarkably short time, following treatment with calcium salts, and in the absence of any other treatment save chloroform for the actual convulsions. The case certainly seems to lend clinical support to the experimental work of MacCallum and Voegtlein.

Disseminated Telangiectasis of the Liver.—Hedrén concludes that the primary condition is a degeneration and disintegration of liver cells and the telangiectasis a secondary and purely mechanical sequence. The same condition occurs in cattle as in human beings.—*Hygica Festband.*

AN UNUSUAL CASE OF MENTAL DEFECT OF TRAUMATIC ORIGIN

OPERATION, FOLLOWED BY MARKED IMPROVEMENT *

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The case which I have the opportunity of reporting was referred to me Feb. 5, 1908, by Mr. G. W. Ehler, former supervisor of physical training in the Cleveland schools. His attention was called to the boy's mental peculiarities by the teacher in charge of the department for defectives. The presentation of this unusual condition is, I believe, fully justified by the rarity of the phenomena, as nowhere in the literature can I find a similar syndrome.

Patient.—Carl R., aged 7, male, height 4 feet, born in Cleveland. The father and mother of this boy are sturdy and industrious Germans. They both enjoy excellent health and are of rugged constitutions. There is no history of neuropathic or psychopathic taint. Their family consists of ten children, seven of whom are older than the patient. The parents are not and never have been addicted to alcoholic beverages or narcotics of any kind. Both deny having had venereal or specific disease. All the children except Carl are of vigorous mentation.

History.—This lad was born at the full period of gestation. During pregnancy the mother was not subject to bodily injury or disease or to any extraordinary emotion. The delivery, however, was instrumental. At birth no peculiarity was noticed and the patient was considered normal in every respect. In early infancy he suffered an attack of measles but escaped whooping cough, scarlet fever, diphtheria and acute brain disease. At no time has there been any suspicion of chorea, paralysis, spasms, convulsions or loss of consciousness. The boy began to walk at the age of 14 months and to talk at the age of 15 months. During this period he was bright, active and affectionate and entered gleefully into the natural gaiety of childhood. When 2½ years old he was playing on the foundation of a building which was being erected in the neighborhood and accidentally fell about six feet, striking his head on a brick, inflicting a wound one and three-quarter inches over the right frontal area, one inch above the middle of the superciliary ridge. The family physician sutured and dressed the injury. No complications ensued and a rapid recovery resulted. Within the year following this incident a gradual change in the psychic personality of the boy was observed. At times he would appear listless and distracted. He also seemed to suffer from an exaggerated sense of fear. It was difficult to make him understand and he could not be trusted to run errands. He was partially amnesic. It was further noticed that he persisted in doing many things in a reversed manner. For instance, he invariably would lace his shoes from the top down and dress himself contrary to the usual order of modern custom. The family looked on these oddities in a mirthful manner and no significance was attached to them until the boy began to go to school. He was then six years old. It did not take the teachers long to decide that the boy was deficient. He lacked spontaneous attention, his perceptive power was feeble and he could not learn. In due time it was necessary to transfer him to the department for defectives, in charge of Miss Mahoney, who made a careful study of the case and discovered that the lad copied all letters and figures in an inverted manner.

General Examination.—The subject was a well-nourished, right-handed boy, weighing sixty pounds. His heart and lungs were apparently normal. There was nothing of interest in the abdominal organs. Examination of the urine was negative. The patellar, tendo-Achilles, mandibular, cremasteric, abdominal and sphincter reflexes were alive and brisk; the Babinski phenomena absent. There was no muscular atrophy or hypertrophy anywhere, and in general the muscles were well developed. The gait and station were unaffected. No evidence of ataxia, tremors, tics, or twitchings could be determined and no anomaly of sensibility.

Eyes: (Dr. Leo Wolfenstein.) Exterior appearance of both eyes normal. Binocular fixation. No limitation of motion in either eye. Good convergence. Pupils medium size, equal and both reacted promptly to light and distance. Vision of both eyes 6/6. Field of vision roughly tested did not appear to be contracted, at any rate no hemianopsia. Field of vision for colors could not be determined on account of lack of intelligence of patient. Fundus of both eyes: media clear, disc round, clearly outlined, good color, small physiologic cupping. No pathologic findings anywhere in fundus. Low hypermetropia.

Stigmata Hereditatis: Inspection showed no developmental abnormalities of head, trunk or extremities. The ears were somewhat large but not disproportionate in size. The setting of the teeth and their general conformation was good. A pronounced high arched palate was evident, but this was the only sign that might be considered degenerative.

Cranial measurements:

Circumference	45.5 cm.	Binauricular arc	27.5 cm.
Volume	1180	Binauricular diam.	11.2 cm.
Naso-occipital arc	28. cm.	Antr. post. diam.	16.3 cm.
Naso-bregmatic arc	9.8 cm.	Length breadth index	75. cm.
Bregmatolambdoid arc	10. cm.	Facial length	9. cm.

Lumbar puncture was not made.

Psychic Condition: The expression was vacuous and only occasionally did the patient smile. He recognized a few of the objects in common use but did not seem to understand the purpose they served. There was absolutely no spontaneity of thought and the boy uttered not a word unless interrogated. Almost nothing was capable of arousing his interest except money or something spectacular in appearance. His attention was defective and the slightest mental effort seemed to exhaust him greatly. He was easily distracted. His ideative content was most meager and there was poverty of the memory. He was unable to differentiate between different coins but could count correctly up to ten. When requested to copy letters he persisted in making them inverted. At the same time he was fully aware that his reproductions were wrong and tried repeatedly to correct them, only to fail utterly in the attempt. All figures he made on the order of mirror-writing.

Habits: The lad was cleanly to a degree and thoroughly obedient. He had acquired no bad habits; was not given to cruelty and had never been quarrelsome or irritable. His table deportment was satisfactory.

Diagnosis.—When this patient was first presented an attempt was made to determine whether the brain was tangibly injured at the site of the external wound or at some remote and inaccessible location or whether the case was one of phrenasthenia (feeble-mindedness) precipitated by the injury. A conclusion was made still more difficult by the assertion of Phelphs[1] and others that a lesion of the right prefrontal lobe was unattended by mental decadence. It may safely be assumed that prior to the accident this boy was bright and mentally alert. His condition when examined two and a half years after the injury was that of a weak-minded youth. It must, of course, be admitted that phrenastheniacs frequently make figures in an inverted manner; but why should this patient display such a pronounced disturbance in writing (dysgraphia) when the motor area of written speech or register of the kinesthetic images of writing occupy the base of the second left frontal convolution and the letter-seeing zone the angular gyrus in right-handed persons? A few exceptions to this rule, however, have been reported, based on absolute necropsy findings. It might be argued that inasmuch as the center of writing and its association tracts are the last portions of the linguistic cerebral basis to be developed in normal brains and as this boy had barely a year's schooling it is quite probable that his writing functions were but slightly organized, and if such was the case the condition could not be termed a dysgraphia. On the other hand, if the contention of Phelphs and

* Read before the Clinical and Pathologic Section of the Academy of Medicine of Cleveland, Dec. 4, 1908.

1. Am. Jour. Med. Sci., March, 1906.

others is correct, the brain in this instance must have been disordered on the left side. A lesion involving the left prefrontal lobe would readily account for the boy's psychic enfeeblement. The graphic symptoms, however, would indicate that the disturbance was more general. As I mentioned before, the patient was aware that his reproductions were incorrect but was unable to copy accurately what he saw, so it is evident that there was some interruption in the tracts connecting the visual center and the graphic motor apparatus. It does not seem possible that the definite localization of the lesion in this unusual case can positively be determined. At any rate an attempt to do so on my part would be mere conjecture.

That the underlying causal element was an excess of fluid within the cerebral vault I am inclined to believe, as the symptoms gradually subsided when the tension was relieved. While no thought of a cure was even anticipated from surgical intervention it was deemed advisable to resort to some such measure as there was tenderness, headache and marked depression of bone (at least of the outer table) at the site of the external wound.

Operation.—The patient was referred to Dr. F. E. Bunts, whose operation at Charity Hospital, March 24, 1908, was as follows: "The head being entirely shaven and a tourniquet placed around the skull just above the eyebrows, an osteoplastic resection of the skull was made in the right frontal region, including the area of apparent depression of the outer table, the base of the flap being toward the face. After throwing back the bone flap and scalp together the inner surface of the bone was examined but no evidence of an old fracture presented. The dura was then carefully examined and it was thought that at one point it was somewhat more tense than normal and a small incision in the dura was made. Cerebrospinal fluid escaped in a very small quantity but apparently not enough to account in any way for cerebral disturbances. No other lesion having been discovered, the bone flap was replaced and the scalp stitched in place.

"*Postoperative History.*—Primary union occurred and the patient left the hospital April 7, 1908, two weeks after admission, with no apparent change in his mental condition." As was the case before, the patient was listless, indifferent and distracted.

Several physicians at this time examined him in regard to his ability to copy and found his copies still inverted. On the assumption that the operation had signally failed, as we had reasonably expected, and that the future of the boy would be clouded in imbecility, it was considered best to have him return to the school for defectives. On May 9, 1908, report came to us that the patient was gradually improving, was now able to copy correctly, and that he displayed considerable interest in his studies.

Another examination was made the following week, and the examiners were amazed to find that there was a decided change for the better; that the patient could now reproduce letters and figures accurately and that his memory and perceptive power were very much more keen. From the time of his discharge from the hospital to date of writing, Dec. 4, 1908, he has regularly attended school and through the summer months his teacher has given him private lessons of one-half hour's duration at her home. The result has been, to say the least, most gratifying to all concerned. The boy is now a responsive child, well adapted to his environment and able and willing to learn. From my close observation of the case I am firmly convinced that the improvement will be continuous and permanent.

It is not my desire to report this condition as a cure, because the boy is not as well endowed intellectually as a normal boy of the same age, but I do assert that the operation has been the means of clearing up some very troublesome symptoms, has given the patient a richer mentalization, and has unquestionably spared him a life of mental inertia.

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AN APPARATUS AND SIMPLIFIED METHOD OF DETERMINING GASTRIC AND OTHER ACIDITIES QUANTITATIVELY

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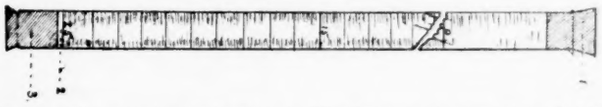
The usual method of determining the amount of the various acids in stomach contents after a test trial necessitates numerous and more or less troublesome apparatus, viz., burette-holder and stand, burette with attachments, one or more glass beakers and a second burette or pipette in which to measure the stomach contents. By the method about to be described many of these instruments are done away with and only a single burette, properly fitted, is made use of, together with an eye-dropper, preferably with a long shank to reach down in the bottle containing decinormal alkali.

The burette is made in the following manner: An accurately graduated tube whose inside diameter is from six-sixteenths to seven-sixteenths of an inch, and which holds 25 c.c., should be marked off in tenths of a cubic centimeter. The lower end of such burettes have a space below the 25 c.c. mark not etched: this should be removed to within about 2 cm. of the 25 c.c. mark by the aid of a triangular file. Then the end should be fused and made slightly narrower with a Bunsen flame. A soft rubber cork, a trifle larger than the inside diameter of the tube, should then be inserted in the lower end, so that it reaches a point nearly opposite the 25 c.c. mark. This point is determined by placing three, or whatever number of drops of the alcoholic indicator is individually used, in the bottom, and then pushing up the cork so that the meniscus is on a level with the 25 c.c. mark. I have also used a thick paste of calcium sulphate and forced this up from the bottom and carefully smeared the surface of the plaster with paraffin so that the indicator would not stain this permanent plug. It has the disadvantage, however, of being more difficult to do, and if the tube becomes badly soiled, the lower end is beyond the reach of the average cleaner. The preparation of such a tube requires but a few moments.



Burette for stomach analysis: 1. Rubber cork for purposes of shaking. 2. Space occupied by indicator. 3. Rubber cork to act as plug.

The technic of the analysis is as follows: Drop the desired amount of indicator in the burette and then add 10 c.c. of clear stomach contents (up to the 15 c.c. mark), agitate to distribute the color, and drop in carefully the decinormal alkali, inverting the tube from time to time, corking the upper end with a rubber similar to that inserted in the bottom of the tube. When the neutralization is complete, read off on the burette the number of cubic centimeters found necessary, and multiply by ten, which will give the amount of free acid present, expressed in terms of the alkali, which is the most desirable way. Now, add the indicator to express the total acidity, directly to the contents (about three drops of an alcoholic solution of phenolphthalein), and again add the alkali to the end reaction, and again read off the amount on the burette and record as before.

It is unnecessary to determine the free acid and the total acidity by separate quantities of stomach contents,

and it is therefore justifiable to add the phenolphthalein directly to the contents already containing the alcoholic solution of "dimethyl." The amount of error in adding the few drops of the alcoholic solutions to the aqueous stomach contents is negligible for clinical purposes, as may readily be proved by adding the same number of drops of alcohol to a tube almost full of water.

It is well to have two control tubes, or one control tube with a paraffin "partition" in the middle, with the end reaction of the "dimethyl" below and the end reaction of the phenolphthalein above the partition. This tube should be of the same diameter as the burette; the liquid may be made of about the same opacity as the stomach contents with dilute starch paste and the tube finally sealed to prevent the access of air. This, of course, is a valuable standard for comparison and will not change, with proper precautions, as the appreciation of the eye for colors will.

I claim for this modified method the following advantages: Simplicity, economy, greater accuracy than the usual method, saving of time, and cleanliness.

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CASE OF POISONING BY FORMALDEHYD

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Owing to its intensely irritant properties, formaldehyd is rarely used for suicidal purposes, and few cases of poisoning with this substance have been recorded. In the literature at my disposal I find two fatal cases reported, one of which is described by L. A. Levison[1] in 1904. In that case the patient swallowed between two and three ounces of commercial formaldehyd and died in collapse about twenty minutes later. Autopsy showed the mucosa of the lower part of the esophagus, stomach and first portion of the duodenum to be dark, chocolate brown in color, and of the consistency of leather. There was an excessive amount of mucus in the bronchi.

On account of the small number of cases of poisoning with formaldehyd I have thought it advisable to report this case in detail:

Patient.—Miss M. S., aged 20, swallowed about a half an ounce of formalin. I saw her about twenty minutes later; she was sitting up, not complaining of any pain; pulse was 106 and of good quality.

Treatment and Result.—Lavage of the stomach was done, there being a strong odor of formaldehyd to the first washings. Immediately after the removal of the tube the patient fell to the floor in a condition of collapse, with loss of consciousness, pallor, irregular pulse, and coldness of the body and extremities. Strychnin was administered, and after several minutes consciousness was partially regained, and she complained for the first time of pain in the throat and stomach, the latter being paroxysmal in nature. The patient vomited twice, the vomitus being small in amount and containing blood. Demulcents, such as milk and the whites of eggs, were administered; an ounce of castor oil was given, by the tube, for both its demulcent and cathartic effects. The patient was stimulated with strychnin, gr. 1/30 being given hypodermatically, three doses in the first hour, then continued every three hours for twenty-four hours. About six ounces of lime-water was given every two hours alternating with a glassful of water containing a dram of sodium bicarbonate. A diuretic mixture was given every two to four hours containing ten grains each of the acetate and citrate of potassium to the dose.

Subsequent History.—The patient lay in this stuporous, semi-conscious condition for about thirty hours, showing a slight gradual clearing up of her physical and mental condition. During this time she was entirely unable to speak; she could understand conversation, but was unable to reply, the muscles of her mouth making labored, but fruitless movements. The tongue could not be protruded beyond the teeth, but could be seen to be reddened and swollen. The eyes could be opened only with great difficulty. After about thirty-six hours she regained the power of speech, talking at first slowly, and with difficulty. When questioned regarding pain, she said there had been no constant pain, except in the throat, and it was not severe there; there was pain in the esophagus and stomach at varying intervals, not of long duration, nor severe except at first. She could not describe the nature of the pain definitely, but considered it more as a heavy, dull, aching than as a smarting or burning. The further recovery of the patient was rather rapid. She was able to be out of bed in about four days, and in a week she went to her home forty miles away.

A surprising feature was the slight amount of kidney disturbance. A specimen obtained thirty hours after taking the poison showed a turbid, grayish-yellow urine, with a specific gravity of 1.019, amphoteric reaction, with no albumin (or sugar); there was a heavy sediment consisting mainly of triple and amorphous phosphates, with but few epithelial cells or leucocytes. Two days later the urine was nearly normal, except for an alkaline reaction, probably due to diuretics given, the presence of phosphates and many epithelial cells.

1. THE JOURNAL, June 4, 1904, xlii, 1492.

MALIGNANT ENDOCARDITIS FOLLOWING CHANCROID

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The following case is considered to be of interest as it illustrates a somewhat unusual method of the development of malignant endocarditis, the micro-organisms gaining access to the circulation through the ulceration of a chancroid:

Patient.—O. W. W., fireman second class, U. S. Navy, was admitted to the U. S. Naval Hospital, Mare Island, Cal., on Dec. 19, 1908, as affected with "chancroid." There was no coexisting gonorrhea.

History.—The patient was 29 years old, single, had had about ten months' naval service, and had never been on the sick list since enlisting. He was formerly employed as a railroad brakeman. He used alcoholic drinks excessively some years previously; tobacco, moderately. He stated that he had an attack of "typhoid-pneumonia" three years ago and that he had always enjoyed excellent health since that time. He denied any previous venereal history or ever having had rheumatism.

Course of Disease.—On admission he presented an annular ulcerating chancroid surrounding the meatus. The inguinal glands were not involved. Healing was fairly rapid under treatment by applications of crystals of copper sulphate. On December 24 he suddenly developed severe cardiac symptoms; temperature, 101.2; pulse, 136; respirations, 52. The heart was found to be enlarged downward and toward the right and left sides. Auscultation revealed a diastolic murmur at the second right costal cartilege, transmitted toward the apex. The pulse was distinctly of the Corrigan type. The diagnosis was then changed to *cordis valvularum morbus* (*cardiac valvular disease—aortic regurgitation*). The septic condition gradually became worse, the temperature ranging from 100 to 103; pulse, 120 to 140; respirations, 40 to 60. A large area of impaired resonance, approaching dulness, was noticed over the lower lobe of the left lung, anteriorly and laterally. The usual measures used in the treatment of acute endocarditis failed to give any relief. The white blood count ranged from 20,000 to 40,000. A purulent pericarditis was

suspected and on Jan. 5, 1909, a paracentesis of the pericardium was performed under local anesthesia (ethyl chlorid) but no fluid was obtained. The patient's condition rapidly grew worse, all symptoms increasing in severity and the dyspnea became intense (respirations, 60). The leucocyte count reached 89,000. The septic condition was then believed to be due only to a pyogenic infection of the aortic valves. Death occurred on the evening of January 7.

Autopsy.—This revealed a large mass of fleshy, vegetative excrescences on the aortic valves, about the size of the end of the thumb. When these were removed for the purpose of making sections, a considerable amount of thick, yellow pus exuded from beneath the leaflets. Both pleural cavities were almost entirely obliterated by dense adhesions, undoubtedly the result of a pleuritis following the previous attack of "typhoid-pneumonia." The liver and spleen were both enlarged and congested, the latter organ showing evidences of amyloid degeneration. Cultures were made from the pus obtained from the aortic lesion and from the chancroid, and the same organism (*Staphylococcus pyogenes aureus*) was isolated in pure culture from both localities. Stained sections of the diseased valves showed numerous purulent foci.

The fact that the chancroid was the only perceptible abrasion on the body surface, the isolation of the same organism in pure culture from both places, and the sudden onset of the septic condition following the chancroidal infection, all seem to indicate that the malignant endocarditis was the sequel of the venereal infection.

U. S. Naval Hospital.

INTESTINAL RESECTION WITH END-TO-END ANASTOMOSIS BY PARKER-KERR METHOD: RECOVERY

SCOTT D. BRECKINRIDGE, M.D.
WASHINGTON, D. C.

Patient.—A colored man, aged 31, was brought into Providence Hospital by Dr. Scott, of Anacostia, Dec. 5, 1908, for immediate operation for a strangulated left inguinal hernia, the strangulation being of about twelve hours' duration.

Operation.—The hernia was exposed and the sac incised in the usual manner, the contents consisting of twelve inches of gangrenous small intestine and a small portion of the omentum which was adherent to the bottom of the sac. The intestine failing to react to the application of hot saline solution, the narrow clamps adopted by Parker and Kerr[1] in their work were applied transversely to the axis of the intestine, one inch outside of the gangrenous portion, and resection performed. A Cushing continuous right-angled suture (the "basting-stitch" of Parker and Kerr) was then applied over the clamps; the clamps were withdrawn, and the "basting-stitches" drawn taut, perfect invagination resulting. End-to-end anastomosis was then performed by means of a silk continuous Lembert suture, reinforced by two or three interrupted Lembert stitches of the same material. The "basting-stitches" were then cut short and withdrawn without the slightest difficulty. The line of anastomosis was rolled between the thumb and finger to open the lumen and a portion of the intestinal wall invaginated through the anastomosis to test its patency. The intestine was then returned to the abdominal cavity and the wound closed.

Postoperative History.—The patient vomited once after the anesthetic and at no time suffered from distention or from any disturbing symptom. His temperature and pulse reached normal on the third day and he made an uneventful recovery, being discharged well a little over three weeks after the operation.

I place particular emphasis on the perfect invaginating action of the "basting-stitches" and the perfect ease with which they were withdrawn after the completion of the anastomosis. This "closed "method is undoubtedly cleaner and, in my opinion, simpler than the ordinary methods by use of clamp and suture, or Murphy button.

1. Parker, Edward Mason, and Kerr, Harry Hyland: Intestinal Anastomosis without Open Incision, by Means of Basting-Stitches, Johns Hopkins Hosp. Bull., May, 1908

A PERMANENT APPENDICULAR VESICO-CECAL FISTULA

R. CADWALLADER, M.D.
SAN FRANCISCO

The following case report shows one result of appendicitis:

History.—A girl, aged 20, was brought to me with the following history: She was the child of healthy parents, a normal baby with a normal history. She had had the usual diseases of childhood. When she was about eight I treated her for peristent bed-wetting. The usual remedies gave little benefit, and, while my records are now lost, I remember telling her mother that I thought it would end at puberty. There was no congenital malformation of any kind. Menstruation began when she was eleven in a perfectly normal manner and, as expected, the enuresis ceased. Soon after this, when about 12 years old, she noticed that a considerable quantity of mucus and pus was passing in the urine at times, with soreness of the bladder. This was more marked when the bowels were loose. With this there was for years a history of colicky pain in the abdomen, but at no time did it confine her to bed or simulate an acute attack of appendicitis. About three years ago this extraneous matter was found to be fecal in nature and is thought by her to have been occasionally passed for the greater part of her life. It was never constant and was usually the seeds of fruit, husks of grain, mucous and brown colored debris. It was not always of fecal odor. At times there was the passage of gas with the urine, of decidedly fecal odor and considerable noise, and she feels sure that several times there was urination from the bowel. With this history she was sent to me for operation.

Diagnosis.—I will pass quickly over the many tests by which I tried to establish all this as true. Inflation of the intestine and bladder were without success. Iron by mouth could not be found in the urine nor did methylene blue escape by the rectum. For days nothing would appear and then the catheter would bring blackberry seeds, pearl barley, or striped muscle fibers in accord with her diet. I used the Kelly cystoscope and made out the ureteral openings and most of the bladder wall to be normal and uninflamed. Dr. John C. Spencer was called in and we used the Nitze instrument and satisfied ourselves that there was nothing abnormal in base or walls except a spot on the fundus that might be an opening. Here was a dark patch or crater at one spot of the border of which was some inflammatory tissue. It was not conclusive but I decided to clear up the mystery by a laparotomy and even open the bladder if nothing was found in the abdomen to account for the symptoms.

Operation.—On January 3, with the assistance of Dr. Campbell Ford, I opened the abdomen and found first a large adhesion of the ileum to the fundus which was carefully separated but which did not communicate with the bladder. Under this we found the tip of the appendix adherent to the bladder at about the peritoneal reflexion over the uterus in the median line. The tip was embedded in the wall and seemed to form a part of it. It was about 7 cm. long and uniform in diameter. The succeeding steps were simple. A cuff of peritoneum and muscle was turned from either end and the median part cut away; the stumps were disinfected, the cuffs were ligated over the stumps and the abdomen was closed with the Ford stitch. Recovery was absolutely without interest and the patient left the bed a week later.

Were it not for the adhesion found I should be inclined to consider the condition congenital, but in the only other case like this, that of Keen's, I find that he

mentioned the fact that the appendix seemed to be embedded in the wall—"soldered" is the term he uses. It is certainly remarkable that there should be no history of any pain in the right lower quadrant.

There have been many cases of perforation into the bladder, but these are the only two I can find in which the fistula was permanent. When such is the case there must be a history of gas escaping from the bladder. I have waded through the weary lists of pneumaturia, perisyphilitis and its complications and rupture of appendicular abscesses into the bladder, made more difficult by the various headings authors have reported them under, but find all spontaneously closed. The following articles are of interest in connection with the subject:

BRISTOW, A. T.:[1] This patient had not been operated on when the case was reported. The fistula has persisted for years and may be due to rupture of an abscess. The following letter has just been received:

BROOKLYN, N. Y., Feb. 3, 1909.

The patient whose case I narrated at the last meeting of the American Surgical Association still refuses operation, but the local symptoms still continue much the same, that is to say, there is the same evidence of communication between the bowel and the urinary tract. He has had one attack of fever since the first of the year * * * but is unwilling to submit to treatment which would cure him. I can not, therefore, say anything about the origin of the fecal fistula in this most puzzling case.

A. T. BRISTOW.

KEEN, W. W.:[2] "A case of appendicitis in which the appendix became soldered to the bladder, producing a urinary-fecal fistula." This patient was a man who at twenty-four passed seeds, pus and intestinal debris. The tip of the appendix was incorporated into the bladder wall, as was mine, and the treatment was by turning down a cuff of the peritoneum and excision in much the same way. This fistula was a permanent one as in my case for some years prior to operation.

KELLY, H. A., and MACCALLUM, W. C.:[3] "Pneumaturia." This is an exhaustive list to that date of all cases of pneumaturia, and no doubt many of the early ones are vesico-intestinal, but I can find none of them due to adherence of the unbroken appendix by its tip to the bladder.

STONE, I. S.:[4] "Perforation of the Urinary Bladder by an Appendiceal Abscess." In this valuable article Stone reports a case in which the tip was adherent and perforated. He also collates some thirty similar cases, but the fistulas, as in his own case, closed spontaneously. Therig's two, reported by him, were not permanent.

APPUHN, MAXIMILIAN HENRY:[5] "Contribution à l'étude des complications de l'appendicite." This was a case reported by Jewell, Sept. 25, 1895, before the Surgical Society of Christiania. The patient was a girl of 17, who for three years passed fecal matter.

Rupture of an appendiceal abscess into the bladder is common. Rupture of the appendix after adherence is not infrequently reported But adherence, rupture and a persistence of the vesicocecal fistula by the appendix is so uncommon that Keen's case alone, and Bristow's possibly, are all I can find in literature besides my own, with the reservation that some old cases in Kelly's list under pneumaturia may be similar ones.

240 Stockton Street.

1. Tr. Am. Surg. Assn., 1908, xxvi, 360.
2. THE JOURNAL A. M. A., May 7, 1898, xxx, 1108.
3. THE JOURNAL A. M. A., Aug. 20, 1891, xvi, 375.
4. Annals of Surgery, 1904, xxxix, 265.
5. Thesis, Nancy, 1903.

Correct Language.—Correctness of onomatology is even more an index of character in science than in daily speech. In medical onomatology, as in ordinary speech, wanton incorrectness is an offence against both truth and good manners. The uncultured mind revels in uncouth expressions. Incorrect medical onomatology is on a par with slang in ordinary speech: the use of either betrays ignorance or a mind devoid of fine feeling.—A. Rose, in *Med. Rev. of Rev.*

Therapeutics

VERATRUM VIRIDE

While a cardiac depressant seems less and less frequently needed in this age of high tension and heart tire, still there is occasionally a positive indication for lowering the blood pressure. It is acutely indicated in puerperal eclampsia, and is sometimes continuously indicated in arteriosclerosis and chronic interstitial nephritis, or Bright's disease.

We have passed through the various stages of beginning the treatment of acute inflammations or infections (as typified by pneumonia) with first severe, and then gradually less and less severe, depleting measures Venesection, tartar emetic, calomel, aconite, veratrum viride and, finally, coal-tar products have all had their acme of use for this purpose. The physician now hesitates to do anything, however apparently advisable, toward aborting or diminishing the intensity of the first symptoms of an acute inflammation, lest the sooner or later cardiac depression may be hastened or developed by the treatment used. It is quite possible, however, that a judicious lowering of the blood pressure is often advisable, and it becomes a question which is the safest way to reduce this pressure: by profuse catharsis, by judicious venesection, by one or two doses of a coal-tar product, or by aconite. The activities of veratrum viride have been forgotten, and have been repudiated by many pharmacologists, perhaps unjustifiably so.

The selection of a drug to lower blood pressure in acute inflammations, when the type of the disease is sthenic, is certainly a subject for careful consideration, and that method should be used which will cause the least cardiac debility or weakness. There can be no question of the advantage and necessity of a complete emptying and cleansing, so to speak, of the alimentary canal. It is quite another question whether it is advisable to cause a series of profuse watery stools. There also can be no question that a dose or two of a coal-tar antipyretic, when the temperature is very high, to cause its diminution and to promote perspiration, is advisable. Later in the disease cold water treatment is, of course, the proper method to use. While the most active and temporarily efficient vasodilators are the nitrites, their action is short-lived and oftentimes unsatisfactory in acute inflammations. The lowering of the blood pressure with aconite of necessity carries with it some weakening of the cardiac muscle, and while a few doses may be advisable, a longer action of this drug is generally inadvisable. Consequently, it may be well to review clinical observations, the value of which is sometimes greater than laboratory research on healthy animals.

Such a review of the clinical findings from the action of Norwood's tincture of veratrum viride is presented to us by Dr. J. S. Todd, Atlanta, Ga., in the *Therapeutic Gazette,* Feb. 15, 1909.

He deplores the present lack of use of this drug, which he considers very useful, and states that it is largely a vasodilator and does not severely depress the heart. If a small dose of morphin, 1/20 of a grain, or half a teaspoonful of paregoric, is given with each dose of veratrum, he states that nausea, vomiting, diarrhea, profuse sweating, giddiness or collapse will rarely take place. "The pulse can be kept soft and at about 65 or 70," and the temperature kept low with the proper administration of veratrum viride. He advises the use of

0.10 c.c. (1½ minims, or 3 ordinary drops) of Norwood's tincture of veratrum viride, and he would administer this not oftener than once in three hours. He says that the dose of veratrum viride is often too large, and, unless it is administered in puerperal convulsions, the dose should be kept as above. In the latter condition he would give 0.30 c.c. (5 minims, or 10 drops) hypodermatically.

As opium will prevent the unpleasant symptoms from veratrum, so, says Todd, "is veratrum a valuable antidote in opium poisoning."

Many times in aortic insufficiency or regurgitation, in arteriosclerosis, and in Bright's disease (cardiovascular-renal disease) digitalis may be indicated, but, as it causes increased blood pressure, it is either deemed inadvisable or must be combined with some vasodilator. To meet this indication Todd advises the use of a combination of digitalis and veratrum viride as follows:

R.	gm. or c.c.		
Strychninæ nitratis	03		gr. ss
Pulveris digitalis	2		
Pulveris scillæ	2	or	āā, ʒss
Pulveris zingiberis	4		ʒi
Tincturæ veratri (Norwood)	3		m. xlv

M. et fac capsulas, 30.
Sig.: A capsule as directed.

Todd advises the administration of one of the above capsules every four, six, eight or twelve hours, as needed.

The editorial department of the *Therapeutic Gazette*, Feb. 15, 1909, calls attention to the value of veratrum viride in puerperal eclampsia, and quotes the results of Mangiagalli, of Milan, in the use of this drug in this disease. Mangiagalli's percentage of mortality since he has used veratrum viride in eclampsia is most satisfactory, the mortality having been reduced from 23 per cent. to 7 per cent.

He uses the best fluid extract of veratrum viride, and administers it hypodermatically in doses of from 0.30 c.c. to 0.60 c.c. (5 to 10 minims), and repeats the dose as often as the blood pressure becomes too high, the blood pressure being accurately determined by the sphygmomanometer. He considers another dose indicated when the pressure exceeds 160 millimeters. The pulse should, if possible, be kept below eighty beats a minute, but if the pulse becomes rapid and small and arterial tension low, veratrum viride is contraindicated.

It is not considered that veratrum viride has any antagonistic action on the toxins of eclampsia, but the benefit derived seems to be entirely due to a lowering of the arterial pressure, and this is evidently an important factor in causing death in puerperal eclampsia. In other words, the high blood pressure may be the cause of cerebral edema and exudate, and thus the cause of convulsions and coma.

USES OF CALCIUM SALTS

Dr. Arthur P. Luff, in the *British Medical Journal*, Jan. 30, 1909, considers Sir Almroth Wright's suggestion, that a deficient blood coagulability may not lead to actual hemorrhages, but to "serous hemorrhages" or exudates, to be founded on fact. Examples of such serous transudates "are urticaria, chillblains, edema of the feet and hands not due to circulatory or kidney lesions and some forms of headache." All of these conditions may be improved by the administration of a calcium salt.

The lymphatic type of headache due to diminished coagulability of the blood "occurs more frequently in women than in men, and is manifested by a dull, heavy ache in the frontal region, and sometimes by a throbbing in the frontal and temporal regions." This kind of headache is most frequently present on the patient's awakening in the morning and diminishes or disappears after the patient has been up and about a shorter or longer time. Such patients are likely to show mental and physical lassitude, and a tendency during the day to slight edemas in pendent portions of the body.

The administration of calcium salts to patients who suffer from this kind of headache is generally followed by amelioration, while it has been shown that the administration of potassium citrate to such patients, by diminishing the coagulability of the blood, increases the headache.

Patients who are subject to chillblains and more or less constantly have cold hands and feet, with perhaps some slight edema, Luff shows are benefited by calcium. The same he has found true of patients who suffer with boils, urticaria and flushing of the face, provided that such patients concomitantly have cold hands and feet, which he evidently considers an indication for the calcium treatment.

He has had some success in the treatment of hemoglobinuria, and has caused some benefit in aneurism by the administration of calcium.

He has also benefited patients with edema of the feet which was not of circulatory or renal origin, and this after various other treatments had failed.

Luff always uses calcium lactate, and says it is important that it should be fresh, as it decomposes after long keeping. "The indication of its good condition is that it should form a clear, or nearly clear, solution in water. A definite white precipitate in its solution is an indication that the salt has undergone some change and should not be used." He administers it as follows:

R.	gm. or c.c.		
Calcii lactatis	10		ʒiiss
Tincturæ capsici	30	or	m. v
Aquæ chloroformi, ad	150		fl. ʒv

M. et Sig.: A tablespoonful in water, three times a day, one hour before meals.

Luff considers it important to give the medicine about an hour before meals, "as this allows absorption of the salt to take place prior to the introduction of food into the stmoach, and thus prevents the precipitation of the calcium by the phosphates and possibly other constituents of the food." He gives the calcium lactate continuously for six weeks. If constipation is caused by it, he uses senna as a laxative, and thinks saline purgatives should not be administered on account of "their precipitant action on calcium salts." Occasionally some months after the cessation of the treatment slight relapses occur, but these are quickly overcome by the readministration of calcium lactate for a period of one or two weeks.

Luff reports the results of giving the above calcium treatment to 121 patients, and without seeing any undesired symptoms except in three instances. One of these patients showed a slight venous thrombosis in the right calf; the second a slight numbness of the arms and legs, associated with tingling, and the third complained of noises in the ear and deafness. In each of these instances the unpleasant symptoms rapidly subsided after the administration of the calcium salts ceased.

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[*For other information see second page following reading matter*]

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SOME NEWER IDEAS CONCERNING GOUT

When Garrod in 1848 demonstrated that the blood of the gouty contained an abnormally high quantity of uric acid, he accomplished one of the greatest advances that has yet been made in our understanding of the pathology of this disease. Although the analytic methods available at that time were far from faultless, yet the main point of his research has been completely verified, especially by Magnus-Levy, who found from three to six milligrams of uric acid per hundred cubic centimeters of blood in gout, while normal blood contains, at the most, doubtful traces of uric acid except in a few special conditions. Within recent years improved analytic methods have helped greatly in the study of uric acid metabolism in health and disease, and we have learned in particular that the several stages in the production of uric acid from its original source, the nucleoproteins, are accomplished only through the successive actions of several distinct intracellular enzymes.

Among the most successful investigators in this field are Schittenhelm and Brugsch,[1] who have worked not only with normal animal and human material, but have also applied their results and methods to the study of gout. They have found that the blood of patients with typical gout contains always a demonstrable quantity of uric acid, even when the food has been free from purins for weeks and months, while blood from normal individuals on purin-free diet contains no uric acid whatever. This indicates that in gout there is a deep-seated disturbance in metabolism so that even the endogenous purins, arising from the nucleoproteins of the tissues themselves, can not be destroyed or removed from the blood in the normal way. This accumulation of uric acid in the blood might depend on either defective uric acid lysis in the individual's tissues, or on failure of elimination by the kidneys. As to the latter possibility, it is found that in interstitial nephritis there is also demonstrable endogenous uric acid in the blood, but the amount varies according to the condition of functional activity of the kidneys, while in gout the endogenous uric acid never exceeds a certain maximum amount (about 0.003 per cent.). Furthermore, if retention by defective kidneys were the cause of the uricacidemia of gout, then the amount of uric acid in the blood might be expected to show a steady rise rather than maintaining a constant level.

Ebstein recognizes two forms of gout, one a primary arthritic gout and the other a primary renal gout, and Brugsch and Schittenhelm[2] consider that their studies clear up the relationship of these two forms. They would limit the term "gouty diathesis" to the condition of uricacidemia persisting with a purin-free diet, which must always be present in order that the typical gouty attacks may occur, but which may exist for an indefinite period without typical acute attacks. It is not necessary that the blood be oversaturated with uric acid in order to have the deposition of uric acid in the cartilage of the joints, as has been almost universally assumed, for it has been found by Almagia, and confirmed by Brugsch and Schittenhelm, that cartilage has a peculiar affinity for uric acid and urates and can extract these substances from dilute solutions by some physical adsorption process and cause their precipitation within the tissues. The long-continued presence of free uric acid in the blood in gout furnishes just the necessary conditions for its accumulation and precipitation in the cartilage. In the retention of uric acid which results from nephritis the periods during which uric acid is present in the blood are generally too brief to lead to precipitation in the cartilage, as this process requires much time for development before it reaches a serious degree. But in those occasional cases of contracted kidney in which there is a protracted retention of uric acid the anatomic results are quite the same as when the uricacidemia is due to metabolic deficiency, for in either case uric acid will accumulate and precipitate in the same tissues with exactly the same effects, namely, acute attacks of gout.

Clinically, however, the renal gout is usually distinguished by the predominance of renal and cardiovascular symptoms; but it is, of course, possible to have cases in which the two forms coexist, or, more frequently, in which a simple metabolic gout becomes complicated by interstitial nephritis. Ebstein's division of gout into renal and arthritic gout is, therefore, not exactly correct, in that we may have arthritic attacks which are due to retention of uric acid by diseased kidneys, and it would be better to distinguish between renal gout and metabolic gout as indicated by Brugsch and Schittenhelm. The formation of uric acid calculi in the urinary passages should not be included among the manifestations of the uric acid diathesis, for the precipitation of uric acid here depends chiefly on chemical and physical conditions in the urine rather than on the amount of uric acid in the blood; indeed, the retention of uric acid characteristic of the gouty would rather hinder than favor its precipitation in the urine.

1. Ztsch. exper. Path. u. Pharmakol., 1907, iv, 438.

2. Zentralbl. f. d. ges. Physiol. u. Path. d. Stoffwechs., 1907, ii, 850.

A LAY VIEW OF MEDICAL QUACKERY

Probably no lay publication in Europe has done more to expose quackery and fraud than has London *Truth*. Henry Labouchere, its editor, by his aggressive attitude toward frauds and humbugs, medical and otherwise, has been involved in numerous libel actions, from which, in spite of the rigid libel laws of Great Britain, he has almost invariably come off victor.

He took occasion recently to commend the new Quackery Prevention Act[1] of New Zealand, and in his article expresses some opinions on the subject of medical quackery that will meet with the approval of every physician. Clause 5 of the act deals with the relation of the publisher to quack advertisements:

> If any person causes any statement to be inserted in breach of this act in a newspaper printed and published in New Zealand, the printer, publisher and proprietor of that newspaper shall severally (and without excluding the liability of any other person) be deemed to have published that statement in breach of this act, and shall be liable for an offence against this act accordingly.

In discussing this admirable clause the editor of *Truth* says: "Here we have a recognition of the principle, for which I have always contended, that if an offence against the law is perpetrated by means of a newspaper advertisement, the nature of which is evident, or reasonably open to suspicion, on the face of it, the publisher should be held equally guilty with the advertiser, and that the proprietor—the real principal in the publication—should be deemed a publisher for this purpose."

Such a law, and especially such an interpretation of it, would find small favor, we fear, among the newspapers of this country. In fact, the strict enforcement of such a law would put a large number of periodicals out of business. In explaining what he means by the word "quackery" as applied to medicine, Mr. Labouchere says: "What I mean is fraud carried out by downright lies or deceitful misrepresentations. This is evidently what the New Zealand legislature means, and I take it that this is what most people mean when they denounce the evils of medical quackery. The root of most of these evils is this: that misrepresentations or exaggerations, which the law, acting on the *caveat emptor* principle, refuses to regard seriously when made in connection with an ordinary purchase and sale of goods, become productive of most serious mischief when applied by unscrupulous traders to the sale of remedies for the treatment of disease. In this case the trade is mainly carried on at the expense of ignorant and credulous people, and carried on with results which may be highly dangerous to life and health. It has always been the policy of the law to curb the activities of those who prey on the ignorance and credulity of their fellow-creatures, and there is a special reason for doing so when the victims are not only robbed of their money but exposed to the risk of grievous bodily harm. This, and this alone, is the ground for strengthening the criminal law against the advertising quack. There can be no reasonable doubt as to the extent of the evils that result from the free hand which these harpies at present enjoy. . . . That these people, and all others of the same class, do infinite harm, extending far beyond the mere picking of the pockets of fools, is not open to question. They help materially to fill our hospitals and cemeteries, and they would do still more in this direction if it were not that a large proportion of the people who waste their money over quack remedies have either nothing at all the matter with them, or nothing which will not be speedily cured by a dose of aloes or calomel. This matter ought really to be regarded primarily from the point of view of public health."

The clear-cut principles here expressed can not be gainsaid; the credulous and ignorant sick have a right to be protected against themselves. There exists, however, a condition as well as a theory, and while acquiescence to abstract principle is obtained with comparative ease, to get a concrete change of conduct based on such principles is a much more difficult proposition. It is to be hoped that public opinion will in time be sufficiently aroused to the evils of medical quackery to make possible in the various states the passage of laws similar to that of this admirable New Zealand act. Whatever the newspapers may sacrifice financially by such a law they will more than make up in respectability; as for the quack's loss, it will be the public's greatest gain.

1. Section 2 of the act provides: "Every person commits an offence who publishes or causes to be published any statement which is intended by the defendant or other person to promote the sale of any article as a medicine, preparation, or appliance for the prevention, alleviation, or cure of any human ailment or physical defect, and which is false in any material particular relating to the ingredients, composition, structure, nature, or operation of that article, or to the effects which have followed or may follow the use thereof . . . "

THE RELIEF OF DR. CARROLL'S WIDOW

In Dr. Goldberger's excellent monograph on yellow fever the work of the Army board in Cuba, headed by Major Walter Reed, is summarized in a single pithy sentence. Referring to the demonstration of the transmission of yellow fever infection by mosquitoes, he says that it "converted a discredited hypothesis into an established doctrine." The positive demonstration of this fact has opened up a wide field of sanitary accomplishment. The epoch-making victory over yellow fever of Gorgas in Havana, his sanitary regeneration of the Isthmus of Panama, White's brilliant results in the New Orleans epidemic of 1905, and Kean's recent extensive campaign in Cuba are all the direct results of the confirmation of Finlay's theory by the work of Reed, Lazear, Carroll and Agramonte in 1900. With a single exception, the members of this gallant band have all perished in the prime of their vigor and usefulness. Dr. Agramonte, the sole survivor, is a distinguished member of the faculty of the ancient University of Havana and a valued adviser of the sanitary department of Cuba.

The rewards which these soldiers of science received for their work during their lives amounted to little or nothing. The value of their work to humanity and civilization is beyond estimate. Yet all of them, owing to the meager pay of the army officer, left their families without adequate means of support, although their widows are now in receipt of pensions which keep the wolf from the door, but which leave no margin even for Spartan luxuries. On one family in particular the burden has been heavy. Major James Carroll was the first volunteer to submit to an experimental inoculation from an infected mosquito and to suffer an attack of yellow fever. This illness was so severe as to endanger his life. As a result of it he developed a dilated heart, which was the ultimate cause of his death. He died a martyr to science for the benefit of humanity, leaving a widow, an aged mother and seven small children practically unprovided for. His widow is now threatened with the loss of her home by the foreclosure of a mortgage and is in need of immediate assistance. Attention is called to an appeal on page 1122 of this number of The Journal setting forth the facts in detail and asking for contributions for the relief of this deserving family.

The experimental work of Carroll and his associates has forever banished yellow fever epidemics from civilized countries. The saving in lives and treasure for present and future generations is beyond all calculations, yet the widow and children of one of the men who made this possible are in danger of losing their home. Surely, if the American public does not realize its enormous debt to this man and his offspring, the medical profession will not turn a deaf ear to the plea for assistance made in behalf of his helpless and dependent family.

ANIMAL EXPERIMENTATION AND TUBERCULOSIS

The present general movement against tuberculosis, one of the most hopeful if not indeed the most promising of all the modern efforts for the temporal salvation of the human race, owes much to animal experimentation. This is ably set forth by Dr. E. L. Trudeau,[1] who says, without any qualifications or reservations whatever, that "everything that has a direct bearing on the prevention of tuberculosis, everything that has changed mankind's attitude toward it from one of apathy and hopelessness when the infectious agent which produces tuberculosis was unknown and the disease was thought to be inherited and always fatal, to the growing hope of its ultimate conquest . . . we owe to animal experimentation." We quote his exact words because he speaks with authority and his words carry greater weight than those of almost any one else in this country on this subject.

It was animal experimentation that first showed that the disease was an infectious one, that it was communicable and therefore preventable, and which paved the way for Koch's discovery in 1882 of the tubercle bacillus. The outcome of this discovery has been all that we now know and are constantly learning in regard to the tubercle bacillus, its virulence and toxins, its routes of invasion of the human system, and the methods of defense we possess in the complex processes of actual and artificial immunity, and all our hope of applying them to the protection of human beings and the cure of the disease is in the knowledge obtained in this way. In his own experience, Trudeau says, animal experimentation has given him the basis for all the practical results he has obtained. In 1886 he was able to demonstrate on animals the influence of a favorable environment on the disease, and this increased his confidence in the influence of the same conditions on the human subject and led to the establishment of the Adirondack Cottage Sanitarium, the practical results of which are before the world. In 1893 animal experimentation also led him to the conviction that the production of artificial immunity against tuberculosis, which had been looked on as impossible, was not as unattainable as had been supposed, and since that time the experience of experimenters in other lands has only strengthened and confirmed this belief, and this is not the end. Even former sceptics are now admitting that the conquest of tuberculosis, like that of smallpox, diphtheria, rabies, anthrax, etc., by some safe process of artificial immunity, is no longer a visionary goal, but that, with more knowledge of the infecting agent, its poisons and methods of attack, and of the methods of calling into action the defensive resources of the human organism, this conquest may in time be attained, but only through scientifically directed animal experimentation.

Dr. Trudeau points out a fact well known to physiologists, that inoculation experiments entail no greater suffering to the animal than the prick of a hypodermic needle and then a painless death, if it be killed, or death from tuberculosis, to which it is always liable, if it be allowed to live. The shortsighted unwisdom of the objectors to this work is self-evident. They would trust their families' welfare and comfort to medical science unguided by this great means of saving life, experiments on the lower animals, and yet object to the slightest apparent suffering of rabbits and guinea-pigs. Those who are trying by legislation to prevent animal pain, or what they think is pain, do not appreciate the possible sufferings to mankind that have been saved by these methods, or are blinded by fanatical zoophilism or are wilfully in ignorance. If we can save future generations from the curse of the great white plague, even partially, would the sacrifice of the lives of hundreds or thousands or any number of experimental animals be too high a price to pay? As Ex-President Andrew D. White has said, one would sacrifice thousands of fleas for the mere comfort of one faithful dog, and would it

1. The Jour. of the Outdoor Life, March.

not be equally proper to sacrifice any number of dogs for the life and comfort of the human race? Dr. Trudeau's words should carry the more weight since no one can question his philanthropy, and his arguments should be convincing to the common sense of unprejudiced men.

Even if the absolute conquest of tuberculosis is beyond our reach, if there will always be here and there in the animal kingdom some sources of infection, and even if it is to a certain extent inheritable, as some authorities claim, it can be robbed of its terrors and occur only as an unfortunate exceptional accident in the human species. This can only be brought about through a continuation of the same methods of experimentation and research that have been so fruitful in the past.

RECENT MODIFICATIONS OF THE WASSERMANN REACTION

The enormous amount of work that has been done on the Wassermann reaction appears to have established conclusively its value as a diagnostic means in syphilis. For, while the reaction can not be considered as specific in the bacteriologic sense of the word, as was first believed on theoretical grounds to be the case, it is apparently characteristic; and the few other diseases, principally the other spirochete and the trypanosome infections, that give the reaction, are of such rare occurrence in the temperate zones as to be practically negligible in this connection.

Unfortunately, the test as at present used is altogether too complicated to be available for the general practitioner, and considerable simplification will be necessary before it can be placed on the plane of, for instance, the agglutination reaction in typhoid.

Studies of the reaction have recently been made from an analytical viewpoint, and the results would seem to indicate that the required simplification is quite likely to be attained.

In the reaction, as used at present, five constituents are required, namely: (1) antibody—the serum to be tested, previously heated to destroy its complement; (2) antigen, so-called—usually extract of syphilitic liver or of guinea-pig heart; (3) complement—normal guinea-pig serum; (4) hemolytic amboceptor—the serum of a rabbit previously sensitized to sheep corpuscles, the complement being destroyed by heating; (5) a suspension of sheep corpuscles.

Schatiloff and Isabolinsky,[1] working on the antigenic constituent of the reaction, have compared extracts of luetic livers with those of various normal organs of different animals. They find that alcoholic extracts of guinea-pig heart are only slightly less efficient than are those of luetic liver, and, that, therefore, this substitution is apparently without effect on the diagnostic value of the reaction.

Stern,[2] investigating the complement constituent, has obtained results that apparently surpass the accuracy of the usual method, by utilizing the complement already present in the (human) serum serving as antibody. Stern has failed to substantiate the claim previously made that the complement of human serum is too variable to admit of its use.

Finally Noguchi,[3] who has had wide experience with the test and all its modifications, suggests a simplification so sweeping that it does away with practically all the technical difficulties and puts the test within reach of any well-trained clinician. Briefly stated, Noguchi's modification consists in having the antihuman hemolytic amboceptor, the guinea-pig complement, and the antigen in dry form so that they can be kept almost indefinitely. This is accomplished by saturating filter paper with these substances when in solution, drying it, and furnishing it in small slips each representing a standardized amount of reagent. This means that the suspension of sheep's blood corpuscles and the patient's serum are all that the physician himself needs to furnish. The test by this dry method seems quite as reliable as the original more complicated one. We refer to Noguchi's article for details.

GRANULATION OF THE ERYTHROCYTES

Of the recent contributions to hematology some of the most interesting and suggestive work has been done by a group of French observers—in particular Drs. Widal, Chauffard, Brulé, Fiessinger and Abrami—concerning certain staining reactions of the red cells. This work is reviewed by Fiessinger and Abrami[4] and deals largely with a new variety of granules occurring in the erythrocytes, which appear to be entirely distinct from the "basophilic granules" first described by Askanazy.

These granules can not be stained in the fixed preparation but are brought out by staining the dried and unfixed blood film with Pappenheim's reagent (pyronin and methylene green) or by allowing a drop of one of the basic blue stains[5] to work its way under a cover glass preparation of fresh blood. Stained in this manner, certain of the erythrocytes present distinct minute granulations which in some instances are connected by a very fine reticulum. Free granules are sometimes found in the blood, when they are connected by faint basophilic strands and form little chains or a fine network. In normal individuals these granules are sometimes found in as many as 3 per cent. of the erythrocytes, while for the first few days of life they are rather abundant.

An excess of red cells showing this peculiar formation is found in certain pathologic conditions, particularly in some of the intoxications and in the anemias. It has

1. Ztschr. f. Immunitätsf. etc., 1909, i, 316.

2. Ztschr. f. Immunitätsf., 1909, i, 422.
3. Jour. Exp. Med., March, 1909.
4. Rev. de Méd., 1909, No. 1.
5. Unna blue in four times its volume, or azure blue in ten times its volume of physiologic salt solution, is recommended.

been observed in a marked degree in hemolytic icterus and its presence is said to offer a valuable differential sign in distinguishing this condition from jaundice of obstructive origin. In anemia there seems to be no absolute relation between the occurrence of these granules and the degree of the anemia. Experimental evidence tends to show that it may be regarded as an evidence of regeneration. The phenomenon bears some relation to polychromatophilia, though all cells showing this peculiar staining reaction are not granulated. Fiessinger and Abrami suggest that polychromatophilic cells, "stippled cells" (*erythrocytes ponctués*), and cells showing this newly described variety of granules (*hématies granuleuses*) may represent different stages of one and the same regenerative process. Until more conclusive evidence is offered as to the nature of the ordinary basophilic granules this hypothesis will not be accepted by many hematologists who look on these granules as an evidence of degeneration.

FOR NATIONAL HEALTH BUREAU

The newspapers announce that the President has requested Surgeon-General Wyman, of the U. S. P. H. & M.-H. Service, to draw up a tentative plan for the consolidation under one bureau of all the agencies exercised by the federal government for the preservation of the public health, and that on the recommendations of Dr. Wyman and those of other eminent physicians the President will base his recommendations to Congress in his message next fall. That Mr. Taft has been deeply interested in public health problems and that he favors the consolidation of existing health agencies in a single bureau has been shown by his utterances in the past. In his speech of acceptance he plainly announced his views on this subject. His speech at the University of Pennsylvania on Washington's birthday, just before his inauguration, emphasized his deep interest in public health problems. His instructions to General Wyman constitute the first practical step toward the consummation of a definite plan and show that the question is being given consideration by the President commensurate with its importance. It is gratifying to know that measures for the preservation of the public health and the conservation of the lives of the people are being carefully considered by our chief executive as one of the important duties of the administration, and we may reasonably anticipate that in his annual message next fall the need of adequate legislation along this line will be properly placed before Congress and the nation.

VASECTOMY FOR CONFIRMED CRIMINALS AND DEFECTIVES

The sterilization of criminals and defectives by vasectomy is becoming a live question in many directions. This method of combating the transmission of criminality and other mental defects—a peril that has assumed such proportions as to arouse the attention of most civilized countries—has now been in use in Indiana for two years, and recently has been legalized in Oregon. The matter has been taken up by the Chicago Society of Social Hygiene, with a view to public education thereon and the introduction of some similar measure in the state of Illinois. There is a bill (No. 249) now in committee of the Illinois senate which appears to cover the ground, though the words "or castration" might with advantage be omitted, as tending to arouse needless opposition. The state's concern in the matter is limited to the prevention of procreation of hereditarily defective offspring, and this appears to be perfectly effected by the safe, harmless, non-mutilating operation of vasectomy. There are doubtless many who realize the necessity for some measure that will limit the output of ready-made potential criminals and defectives, who, nevertheless, are strongly opposed to what they consider the barbarous practice of compulsory mutilation, and these will have little fault to find with vasectomy.

Medical News

ARIZONA

Ask Appropriation for Laboratory.—The physicians of Arizona are making a concerted effort for an appropriation for $1,200 by the legislature for a bacteriologic and chemical laboratory at the University of Arizona, especially equipped for tests of milk, water and food.

Hospital to be Enlarged.—General plans have been completed for the new Whitwell Hospital, Tucson, which was recently destroyed by fire. The new building will be a fireproof structure throughout; will be two stories in height, and will contain rooms for thirty-two patients, in addition to two large wards. The accommodation of the hospital will be more than double that of the old building.

Society Meetings.—The annual meeting of Santa Cruz County Medical Society was held in Nogales, March 8, when the following officers were elected: President, Dr. Albert L. Gustetter, Nogales; vice-president, Dr. Paul R. Doran, Patagonia; censor, Dr. William F. Chenoweth, Nogales; secretary-treasurer, Dr. Alfred C. Kingsley, Nogales; and committee on public health legislation, Drs. Adolphus H. Noon and Harry W. Purdy, Nogales.——At the annual meeting of Pima County Medical Association, held in Tucson, Dr. Joseph W. Lennox, Helvetia, was elected president; Dr. Hiram W. Fenner, Tucson, vice-president, and Dr. A. Garfield Schnabel, Tucson, secretary.

CALIFORNIA

Red Cross Chapter Established.—The Los Angeles County Chapter of the California Branch of the American National Red Cross was organized February 18 in Los Angeles. Dr. Rose Burcham was elected president and Rev. Robert J. Burdette, vice-president.

Gift to University.—The University of California has been given $20,000 by Jackson A. Graves of Los Angeles, to be applied to paying off the mortgage on the medical department. In commemoration of this gift the dispensary will be known as the Selwyn Emmett Graves Memorial.

Society Organized.—On March 4, at the invitation of Dr. Osea Perrone, the Italian-American Medical Society of San Francisco was organized. Drs. A. Stephens Musante, Osea Perrone and E. Taussig were appointed to draft a constitution and by-laws. The society is intended for the social, professional and economic improvement of the Italian-American practitioners of San Francisco.

Gifts to Hospitals.—Mrs. R. A. Boyd has given the city of Richmond, Contra Costa county, $17,500, which, with the addition of $7,500 which has already been subscribed, will be used to build the Boyd Memorial Hospital, in memory of her late husband.——The Settlement, Redlands Sanatorium for

the Treatment of Tuberculosis, has just received a bequest of $2,000 from the estate of the late David Cotcher.

Hospital Notes.—Plans have been accepted, and contracts will be let, for the construction of the new St. Francis Hospital, San Francisco, to be a four-story modern building, to cost $150,000.——The board of directors of the Peninsula Hospital, Palo Alto, reported at its recent meeting that there was sufficient money in the treasury to carry on the erection of the hospital and construction work will begin as soon as the weather permits.

GEORGIA

Liquor Prescriptions Issued by Physicians.—During February sixteen physicians of Athens issued 56 prescriptions for alcohol, a marked decrease over the preceding month.

Found Not Guilty.—The jury in the case of Dr. Samuel P. Smith, Younker, charged with the murder of W. J. Nicholson on July 4, 1907, returned a verdict of not guilty, March 11.

District Society Meetings.—At the annual meeting of the Fourth District Medical Society, held in Columbus, February 16, Dr. M. M. Hallum, Carrollton, was elected president, and Dr. T. Neal Kitchens, Columbus, vice-president, the secretary-treasurer, Dr. Charles A. Dexter, Columbus, holding over for another year.——At the annual meeting of the Seventh District Medical Society, held in Marietta, March 10, Dr. Charles T. Nolan, Marietta, was elected president; Dr. Joseph J. P. Bowdoin, Adairsville, vice-president, and Dr. Harlan L. Erwin, Dalton, secretary. Rome was selected as the next place of meeting.——At the first meeting of the Atlanta Medical Library Association, held in its new quarters, Dr. Michael Hoke was elected president; Dr. Lewis M. Gaines, vice-president, and Dr. George M. Niles, secretary-treasurer. The association has fitted up a reading room in the basement of the Carnegie Library, where members may consult the latest medical books and periodicals. The room is open during the regular hours of the library.

ILLINOIS

Personal.—Dr. George M. Peairs, Joliet, will sail for Vienna May 1.——Dr. Robert F. Hayes, Freeport, one of the oldest members of the local fraternity, fell March 21, fracturing his left femur.

General Vaccination.—On March 17, 2,400 patients, attendants, members of the administrative staff, nurses and physicians at the Illinois General Hospital for the Insane, South Bartonville, were vaccinated by order of the superintendent. Two cases of smallpox had developed at the institution.

Widespread Areas of Smallpox.—According to reports to the state board of health, there is a widespread epidemic of smallpox areas including northeast Fulton and southwest Peoria counties. The disease first made its appearance in Canton, Pekin and Glasford, and spread from there to adjoining localities.

Chicago

Name School for Master-Surgeon.—The Board of Education has decided to name the new high school to be erected on the north side, "The Nicholas Senn High School."

Provisional Donation to Hospital.—William Deering has announced that he will give $55,000 to Wesley Hospital, provided a similar amount is raised by the institution.

Personal.—Dr. and Mrs. E. Fletcher Ingals have returned from Florida.——Dr. Joseph C. Beck has been elected professor of otology, rhinology and laryngology in the Chicago Eye, Ear, Nose and Throat College.——Dr. Alexander H. Ferguson has been elected president of the Senn Club.

Tuberculosis Notes.—A building permit has been secured for the Cook County Tuberculosis Hospital, to adjoin the County Hospital, Harrison and Wood streets, and work on the building, which will cost $1,000,000, will soon be commenced.——The Chicago Tuberculosis Institute has issued 3,000 posters appealing for an affirmative vote on the referendum ballot for the municipal tuberculosis sanatorium, and 100,000 pamphlets setting forth the essential features of the Glackin law.——The Chicago Tuberculosis Institute reports that the net proceeds from sales of Red Cross Christmas stamps were $7,378.78. This sum is to be used by the society for such special purposes as preparation of a traveling tuberculosis exhibit, the preparation of small exhibits for schools, a relief fund for dispensary patients, and a special food fund for dispensary patients.

INDIANA

Found Guilty.—Orland C. Brown, charged on complaint of the Cass County Medical Society with peddling medicine in Logansport without a license, is said to have been found guilty, March 3, and fined $100 and costs.

Society Expels Member.—Huntington County Medical Society met March 9, at Huntington, and is said by a unanimous vote to have expelled Dr. John R. Hunter from membership because he had advertised in newspapers and had announced his intention of continuing so to do.

Vital Statistics for February.—During February tonsilitis was the most prevalent disease, followed in the order named by bronchitis, pneumonia, influenza, rheumatism, scarlet fever, pleurisy, diphtheria, measles, whooping-cough, chickenpox, typhoid fever, diarrhea, smallpox, erysipelas, cerebrospinal meningitis, dysentery, cholera morbus, puerperal fever and cholera infantum. During the month there were 130 cases of smallpox in 22 counties with no deaths, 93 cases of diphtheria in 33 counties, with 25 deaths; and 68 cases of typhoid fever in 30 counties, with 19 deaths. There were 2,955 deaths during the month, equivalent to an annual rate of 14 per 1,000. Pneumonia, tuberculosis, violence and cancer in the order named were the chief causes of death.

KANSAS

Asks Appropriation for State Sanatorium.—By a bill introduced by Senator C. F. Huffman of Cherokee county, an appropriation of $50,000 is provided to build and equip a free state hospital on Mount Oread, Lawrence.

Medical School Notes.—At a meeting of the faculty of the Kansas Medical College of Topeka, it was decided to add a course in pharmacy, beginning next year.——A new chapter of the Nu Sigma Nu fraternity has been installed at the University of Kansas School of Medicine, Lawrence.

Society Meeting.—At the annual meeting and banquet of the Franklin County Medical Society, held in Ottawa, Dr. Robert S. Black presided as toastmaster. Dr. Vilas E. Lawrence was elected president; Dr. John M. McWharf, vice-president, and Dr. James Ball, secretary-treasurer, all of Ottawa.

Personal.—Dr. Mordecai D. Elder, Piqua, has returned from a three months' trip in Mexico.——Dr. Edwin J. Kanavel, physician at the State Penitentiary, Lansing, has resigned, and will be succeeded by Dr. D. L. Axford, Burlingame.——Dr. Jacob W. Graybill, Newton, has been re-elected state medical examiner of the A. O. U. W.——Dr. Frank C. Stewart, Eskridge, has been made health officer of Wabaunsee county.

State Board Appointments.—The following appointments of members of state boards have been made by the governor: State Board of Health—Drs. Clay E. Coburn, Kansas City; James A. Milligan, Garnett, and James S. Scott, Independence, to fill unexpired terms, and Drs. Victor C. Eddy, Colby; Charles H. Lerrigo, Topeka, and Harry L. Aldrich, Caney, for full terms; State Board of Medical Examination and Registration—Drs. Charles J. Simmons, Lawrence, and Henry A. Dykes, Lebanon, to fill unexpired terms, and John Outland, Kansas City, for full term.

MARYLAND

Personal.—Dr. Benjamin F. Lansdale, Boyds, formerly a member of the board of house delegates from Montgomery county, is seriously ill in Johns Hopkins Hospital, Baltimore.——Dr. Edward P. Irons, Windsor Hills, is reported to be seriously ill at the Baltimore City Hospital.

Ask Relief from Purely Municipal Work.—An appeal is being made to Baltimore by the Maryland Association for the Prevention of Tuberculosis, and other city organizations for aid in controlling tuberculosis. There are now four special nurses employed by the association to visit and supervise patients in their homes, and they have 1,500 patients under their care. Last year 16,406 visits were made in addition to the inspection of 1,800 houses. The association now asks for relief from this work, which is properly a municipal function and should be performed by the health department. The health commissioner is willing to take charge of the work, providing the city supplies funds amounting to $13,500 for the annual salaries of fifteen nurses. At present the department only fumigates houses after the death or removal of consumptives.

Baltimore

Library Closed.—The library of the Medical and Chirurgical Faculty of Maryland was closed March 15, on account of the removal to the new building. It will be opened in its new quarters on April 19.

Personal.—Dr. Claude Van Bibber has gone to St. Agnes Sanitarium for treatment of a sprain of the back, due to a fall on the ice.——Dr. J. Whitridge Williams sailed for Europe March 25.——Dr. Hugh H. Young has returned from Jamaica.

Nurses for Tuberculosis.—The board of estimates has appropriated $1,500 for the employment of two nurses to be appointed by the health commissioner, for tuberculosis work in the city. They will assist the fumigating officers of the health department in disinfecting the homes vacated by death or removal of consumptives.

Money for Hospital.—By a decision of the Court of Appeals, the Church Home and Infirmary receives a reversionary bequest of $40,000.——The Ladies' Auxiliary of St. Joseph's Hospital realized about $7,000 at a recent fair for the new operating room of the hospital, to be dedicated to the memory of the late Dr. Isaac Ridgeway Trimble.

Child Labor and Factory Inspection.—In the seventeenth annual report of the Maryland Bureau of Statistics and Information, C. J. Fox, chief of the bureau, said that under the child labor and factory inspection laws the sweatshop has almost disappeared from Baltimore, and garments are now made in clean well-ventilated and well-lighted factories, and that many children have been rescued who were physically unfit for work. He recommends a law authorizing the bureau to remove from factories individuals suffering from consumption.

MASSACHUSETTS

New Hospital.—The Melrose Hospital Association has voted to build a new hospital on a site owned by the association, the building to cost about $55,000.

Sent to House of Correction.—Dr. Alfred J. Boyle, Boston, is said to have been arraigned in the police court on the charge of vagrancy, and sentenced to four months in the house of correction.

Society Changes Name.—At the recent meeting of the Society of Examining Physicians and Surgeons, held in Boston, it was voted to change the name of the organization to the Massachusetts Society of Physicians and Surgeons, and a committee was appointed to incorporate the association under the new name.

Gives Land for Experimental Work in Tuberculosis.—James M. Prendergast has donated nineteen acres of land near the Hyde Park line to the Boston Association for the Relief and Control of Tuberculosis, to be used for the carrying on of experiments. The association decided to utilize this land by establishing night camps for men and day camps for women and children suffering from tuberculosis.

Personal.—Dr. Henry T. Mansfield has been appointed town physician at Needham.——Dr. Charles A. Drew, Bridgewater, has been elected superintendent of the Worcester City Hospital, vice Dr. Thomas Howell, resigned, to become superintendent of the New York Hospital and Hudson Street House of Relief.——Dr. Merrill E. Champion has been appointed town physician of Arlington.——Dr. Edward E. Bancroft, Wellesley, has been appointed a trustee of the Wellesley hospital fund.——Dr. Edwin C. Farnham, medical advisor to the Cambridge board of health, has resigned.

MINNESOTA

Elections.—The Minnesota Wiener Medicalverein held its annual banquet February 13, which was attended by more than 100 physicians, former students in Europe. Dr. William D. Kelly was elected president, Dr. Eduard Boeckmann, treasurer, and Dr. Charles Freeman, secretary.

Tuberculosis Dispensary.—The Board of Charities and Corrections of Minneapolis has decided to establish a free dispensary for those afflicted with tuberculosis, which will be operated in connection with the City Hospital, and the city board of health will cooperate in the enterprise.

Physician Pardoned.—Dr. Jacob Force, former president of the Northwestern National Life Insurance Company, Minneapolis, who was sentenced to three years' imprisonment in the state penitentiary for misuse of the funds of the company, and was paroled some months ago, was pardoned March 13.

State Aid for Consumptives.—Senator S. A. Nelson has presented a bill providing for a tax of one-tenth of a mill, the proceeds to be used for giving aid to sanatoria for the treatment of tuberculosis. With the sanction of the State Board of Health, aid is to be granted to patients who are unable to pay the $10 a week required at the sanatoria.

Medical Advertising Bill Passed.—The House of Representatives has passed a bill prohibiting the advertising or distribution of printed matter relating to the so-called "Medical Institutes," and prohibiting also the distribution of advertising matter in the form of pamphlets or circulars regarding the treatment of venereal diseases.

MISSISSIPPI

Meeting of Health Officers.—The secretary of the State Board of Health announces that there will be a meeting of the county and municipal health officers of the state in Jackson, April 12, to discuss sanitary measures.

State Association Meeting.—The annual meeting of the Mississippi State Medical Association will be held in Jackson April 12 to 14, and one of the important subjects of discussion will be the launching of a campaign of hygiene and sanitation throughout the state.

Personal.—Drs. Walter R. McKinley and Walter C. Brewer have been appointed members of the board of health of Columbus, and Dr. McKinley has been selected as president of the board.——Dr. Jones has been elected second assistant physician at the Eastern State Hospital, Williamsburg, Va., vice Dr. Irene Bullard, resigned.

New Society Organized.—The East Mississippi Four County Medical Society was organized at Tupelo February 9. Dr. Robert M. Sadler, Okolona, was temporary chairman, and Dr. F. J. Underwood, Central Grove, temporary secretary. Representatives were present from Lee, Monroe, Chickasaw and Itawamba counties. Organization was effected and the following officers were chosen: President, Dr. Lucien C. Feemster, Nettleton; vice-presidents, Drs. T. A. Boggan, Tupelo; J. C. Gatchings, Prairie, and Robert M. Sadler, Okolona, and Woody N. Reed, Tilden, and secretary-treasurer, Dr. F. J. Underwood, Central Grove.

NEW YORK

Personal.—Dr. James A. Lyon, who has been connected with the Loomis Sanitarium at Liberty, has resigned his position and accepted a position at the Massachusetts State Sanatorium, Rutland.——Dr. Herman J. Boldt, New York City, delivered an address before the Medical Society of the Missouri Valley at St. Joseph, March 18, and was the guest of honor at a luncheon March 16.

Conference of Alienists.—An important conference of alienists from the various state hospitals was held at the Middletown Hospital, March 25 and 26. The institutions at Poughkeepsie, Manhattan, Central Islip, King's Park, Binghamton and the Pathological Institute of New York were represented. The time was devoted to a discussion of the medical problems arising in these institutions.

For Ambulance Service.—Homer Folks, secretary of the State Charities Aid Association, has been instrumental in having two bills introduced into the legislature in relation to ambulance service and contagious diseases in New York City. One provides for the establishment of an ambulance system in Manhattan and the Bronx by the trustees of Bellevue and the Allied Hospitals, and in Brooklyn, Queens and Richmond by the commissioner of public charities. The other bill provides an automatic and flexible scheme by which the department of health will be charged from time to time with the actual control of such contagious diseases as are of a readily communicable and dangerous character, leaving to public and private hospital authorities the care of the milder contagious diseases.

Workingmen and Industrial Accidents.—In a recent lecture on "Out of Health and Out of Doors," Dr. Edward T. Devine, general secretary of the Charity Organization Society, stated that during 1908 there were 251 persons killed by accidents in factories, quarries and tunnel construction in the State of New York; that at least 1,663 were permanently disabled, 1,541 probably permanently injured, and 10,474 temporarily disabled. There were 444 persons killed in accidents on the steam, subway, elevated and surface roads subject to the jurisdiction of the Public Service Commission of New York City. In addition, 2,147 were seriously injured and 32,469 injured to a lesser degree. The employers' liability laws in

this state and in Pennsylvania are said to be worse than no laws at all. The wages of the workingman are not sufficient to provide for him in case of these accidents and there was no other protection against such accidents.

New York City

The Lincoln Hospital and Home.—During the past four months more than $96,000 has been subscribed by the people of this city toward a half-million-dollar endowment fund for the Lincoln Hospital and Home at Southern Boulevard and 141st Street. It is proposed to make this institution New York's monument to Lincoln, which medical and surgical leaders believe would not only be a most fitting tribute, but would be of great benefit to the sick and poor of the city.

NORTH DAKOTA

Physician Found Guilty.—Dr. Thor O. Moeller, Minot, formerly a practitioner of Devil's Lake, is said to have been found guilty of criminal malpractice, and to have been sentenced to imprisonment for ten years in the state penitentiary.

Tell Legislators About Tuberculosis.—February 5, Drs. Gustav F. Ruediger and James Grassick, Grand Forks, delivered addresses before a joint assembly of the house and senate at Bismarck, in which they advocated legislation to provide for the care of victims of tuberculosis.

Society Meeting.—At the annual meeting of the Missouri Slope Medical Association, held in Bismarck, Dr. William H. Bodenstab, New Salem, was elected president; Dr. Percy F. Kearney, Glen Ullin, vice-president, and Dr. A. M. Brandt, Bismarck, secretary-treasurer. A resolution was adopted endorsing the bill providing for a state sanatorium for tuberculosis.

Antituberculosis Association Organized.—The Antituberculosis Association of North Dakota was organized February 25, at Bismarck, and the following officers were elected: President, Dr. James Grassick, Grand Forks; vice-presidents, Mrs. Bolley, Fargo; and Drs. Victor J. LaRose, Mandan; Victor H. Stickney, Dickinson, and Andrew Carr, Minot; secretary, Mrs. J. E. Stevens, Northwood, and treasurer, Dr. Fannie D. Quain, Bismarck.

OHIO

Hospital Dedicated.—The new Union Hospital, located between Philadelphia and Canal Dover, was formally dedicated March 17. The building is a three-story brick structure with accommodation for 150 patients, and has been erected at a cost of $17,000.

Personal.—Dr. Charles E. Sawyer, Marion, was seriously injured March 23, in a collision between a street car and his carriage.——Dr. Torald Sollmann has been elected professor of materia medica in the school of pharmacy of Western Reserve University, Cleveland, vice Prof. W. H. Haake, resigned. ——Dr. James W. McMurray has succeeded Dr. Horatio C. Chisholm as superintendent of the Central Emergency Hospital, Marion.

Cincinnati

Postgraduate Course.—Preliminary to the merging of the Medical College of Ohio and the Miami Medical College, a postgraduate course of six weeks will be given conjointly by the two schools, beginning April 16.

Honor for Dr. Withrow.—In recognition of his work in behalf of the Cincinnati public school, the Business Men's Club gave a dinner in honor of Dr. John M. Withrow March 27, in conformity with the rule of the club, that each year it shall express its appreciation of conspicuous public services for the welfare of the city.

Death of Dr. Conner.—Dr. Phineas Sanborn Conner, a surgeon of unusual attainment, and a writer and lecturer on surgery of more than national reputation, died suddenly from heart disease, March 26, at the home of his son-in-law in Norwood, a suburb of Cincinnati. A memorial meeting for Dr. Conner was held at the University of Cincinnati, April 1. A more extended notice will appear in THE JOURNAL, April 10.

Memorials to Dr. Reamy.—At the meeting of the Cincinnati Academy of Medicine, March 22, the evening was devoted to memorial addresses in honor of the late Dr. Thaddeus Asbury Reamy. The academy adopted resolutions of regret at the death of Dr. Reamey. Dr. Phineas S. Conner spoke on "Dr. Reamy as a Colleague"; Dr. William H. Wenning on "Dr. Reamy as a Member of the Academy"; Dr. William H. Taylor on "Dr. Reamy as an Obstetrician"; Dr. John M. Withrow on "Dr. Reamy as a Gynecologist"; and Dr. Louis Schwab on "Dr. Reamy as a Consultant."——The faculty of the Medical College of Ohio at its meeting March 22, passed resolutions of respect and regret regarding Dr. Reamy.

PENNSYLVANIA

Pathological Society Organized.—The Pathological Society of Pittsburg was organized February 22, with sixteen members. The following officers were elected: President, Dr. Joseph H. Barach; vice-president, Dr. Ernest W. Willetts, and secretary, Dr. S. George.

Milk Bill Becomes Law.—Governor Stuart, on March 24, approved the milk adulteration bill, which imposes a fine of from $20 to $50 on persons who sell milk adulterated with water or with fat removed. The same bill imposes a similar fine on persons selling ice cream containing less than 6 per cent. of butter fat, or preserved by chemicals.

Appropriations.—The senate committee has reported favorably the following appropriations: Elwin School for Feebleminded Children, $270,000; Austin General Hospital, $17,000; Uniontown Hospital, $60,000; Clearfield Hospital, $16,000; Booker T. Washington Hospital, Pittsburg, $10,000; and State Hospital, Shamokin, $5,000.——The total requests for state aid for hospitals and charitable institutions and for other purposes not including departmental demands, aggregate this year $54,927,590.

Philadelphia

Hospital Nears Completion.—The new building of the Frederick Douglas Hospital and Training School, designed for colored people, is nearing completion and it is arranged to dedicate the institution on April 22.

Smallpox on Steamer.—Two cases of smallpox were discovered on the steamship *Merion* at the quarantine station at Marcus Hook, March 26. The ship was held at quarantine and fumigated and all the passengers were vaccinated.

Anticontagion Gowns for Physicians.—Anticontagion gowns for physicians treating patients suffering from scarlet fever, diphtheria, measles and other contagious diseases, have been provided for free distribution by Dr. Joseph S. Neff, director of health and charities.

Personal.—Dr. John Steinwandel has been appointed outdoor physician in the 29th, 32d and 47th wards to succeed Dr. Herbert B. Coy.——Dr. W. W. Cadbury sailed for Canton, China, March 22, to become an instructor in the University Medical School of that city.

To Aid Epileptics.—A society to provide suitable employment for many of the city's 3,000 epileptics was recently organized and the following officers were elected: President, Dr. Matthew Woods; and directors, Drs. J. Madison Taylor, John H. W. Rhein, W. N. Trapp, Thomas J. Mays and P. Brook Bland.

Appropriations to City Institutions.—The senate appropriation committee has reported favorably appropriations to the following institutions: Midnight Mission, $3,000; Penn Asylum, $6,000; Academy of Natural Sciences, $100,000; St. Vincent's Home, $10,000; and Philadelphia Home for Incurables, $30,000.

Bequests.—By the will of the late Samuel Parker, the Frederick Douglas Hospital and Training School receives $1,000 and the Home for Aged and Infirm Colored People $500.——The will of the late Henry L. Fell bequeaths $500 to the Philadelphia Home for Incurables.——The will of the late Dr. Martin H. Boye bequeaths $12,000 to the Policlinic Hospital and $24,000 to the University of Pennsylvania.——The will of the late William Y. Mescheter contains bequests to the Medico-Chirurgical Hospital, $5,000; Methodist Hospital, $500; German Hospital, $500; Pennsylvania Society for the Prevention of Tuberculosis, $300, and Pennsylvania Society to Protect Children from Cruelty, $1,000.

GENERAL NEWS AND COMMENT

New Assistant Surgeons in the Navy.—At the graduation exercises of the Naval Medical School, Washington, March 25, diplomas were presented by the Secretary of the Navy to a class of 39.

Change in Editor.—Major Charles Lynch, Medical Corps U. S. Army, has succeeded Major James Evelyn Pilcher, U. S. Army, retired, as editor of the *Military Surgeon*, the organ of the Association of Military Surgeons of the United States.

Major Pilcher, who has been secretary of the association and editor of its journal for many years, has resigned on account of ill health. At the meeting of the executive council of the association held February 4, in Washington, resolutions of regret at the retirement of Major Pilcher, and of appreciation of his services, were adopted.

Death Rate in the Canal Zone.—The chief sanitary officer of the Canal Zone, in his report for January, especially calls attention to the low death rate of the total population under his jurisdiction, 22.86 per 1,000. The rate for the years preceding are as follows: January, 1908, 26.60; January, 1907, 35.12; January, 1906, 47.26; and January, 1905, 40.20. There has been a commensurate reduction of the deaths among employés as follows: January, 1905, 20.26; January, 1906, 40.36; January, 1907, 25.62; January, 1908, 12.72, and January, 1909, 10.98 per 1,000. No case of yellow fever, plague or smallpox occurred during the month.

Consumptives Unwelcome in Texas.—Dr. W. M. Brumby, state health officer of Texas, has issued an official notice stating that the people of the state are no longer able to cope with the tuberculosis situation. So many consumptives have been sent to Texas that the death rate from that disease has risen from almost nothing to over 10 per cent., and that the natives are now suffering from the disease because the population is unable to assimilate the added consumptives. The local charitable associations are said to be impoverished by hospitality extended to indigent consumptives and are unable to look after those now in Texas. Rest, good food, and fresh air are all the more important in the cure of tuberculosis than change of climate, but in spite of this many invalids are sent west without sufficient means and therefore encounter hardships which far more than counterbalance the favorable effect of the climate. Almost all Texas hotels and private boarding houses refuse to accommodate consumptives, and under these circumstances, Brumby makes the following appeal to physicians of the country: 1. Never send a patient in an advanced or hopeless stage of the disease to Texas. 2. Never send any one to Texas without making arrangements for board, etc., before the individual leaves home. Keep the pauper at home. The patient in the incipent stage, if he has means, can benefit himself without endangering the public health.

Sanitation in Cuba.—In the report of the provisional administration of Cuba from Dec. 1, 1907, to Dec. 1, 1908, the most important sanitary effects of the year are said to have been the control and final extermination of yellow fever from the territory of the republic, and the steady progress which has been made to nationalize the sanitary department in municipal sanitation throughout the island. Of the 79 cases of yellow fever reported during the year, 53 occurred between Nov. 1, 1907, and Feb. 18, 1908, and since that date a local epidemic occurred in the department in Oriente, which was promptly brought under control, and a sporadic case in Havana, September 7, which did not create a focus of infection, and which was not followed by any secondary case. Havana is divided into 52 districts, each in charge of an inspector, who makes a house-to-house inspection and is held to a strict responsibility that no insanitary conditions exist, and that no breeding places for mosquitoes are overlooked. During the year, 584,222 house inspections were made. The steady progress which has developed in the municipal sanitary service now conducted, by the national sanitary department, is noteworthy. All the towns of the island of more than 1,000 inhabitants have this sanitary service, and in addition individual services have been conducted in some of the more important villages. A sanatorium for tuberculosis has been established with accommodation for sixty patients, and a new building in Havana has been completed, which is occupied by the dispensary for tuberculosis and the Tamago Dispensary for General Diseases. Two additional sanatoria are needed, one in Santa Clara province and the other in Oriente, and a dispensary for tuberculosis should be created in each large city of the island.

FOREIGN

An American Physician Honored in Germany.—Dr. James H. Honan, who has practiced medicine in Berlin for a number of years, has been the recipient of a marked honor from the German government, which has conferred on him through the *Kultusminister* an honorary certificate in recognition of his scientific medical attainments. Dr. Honan is a graduate of Rush Medical College and of the University of Berlin. He is founder and president of the Anglo-American Medical Association in Berlin.

Vital Statistics in Italy.—With a population estimated at 33,640,710, the death rate in 1877 was 28 per thousand inhabitants, but this has been reduced to 20 per thousand (1906). The deaths from tuberculosis have dropped from 20 to 16.77 per ten thousand inhabitants. The mortality from malaria has been reduced from 14,000 to 4,800, the maximum being in Sardinia, with, next in order, Sicily, Calabria and the Abruzzi. The number of suicides has increased from 1,429 in 1887 to 2,316 in 1908, including in the latter the suicides of 564 women and 11 school children. The fewest suicides occurred in Abruzzo and Calabria. Chronic alcoholism is assigned as the cause of 702 deaths, none in wine-growing districts. Industrial accidents were responsible further for 10,890 deaths, about the average for the last twenty years, according to the summary in the *Policlinico*, February 21.

The Zambaco Prize for Dermatology.—The sum of $160 is offered by the French *Société de Dermatologie et Syphiligraphie* every two years for the best work on dermatology or venereal diseases offered in competition for the prize. The works must be sent anonymously, written in French, but competition is open to the world. Previous publication of the work anywhere bars it from the competition. The next prize is to be awarded in April, 1911, and competing articles must be in the hands of the secretary, 93, rue Jouffroy, Paris, before Nov. 30, 1910. The foreign corresponding members of the society from this country are Hyde of Chicago, Ravogli of Cincinnati, Dühring and Stelwagon of Philadelphia, Bulkley, Elliott, Fordyce, Lustgarten, Morrow, Piffard, Robinson and Taylor of New York and White of Boston, with Brodeur and Latreille of Montreal, Lebel of Quebec and Gonzalez of Mexico.

Fatal Morphin Poisoning Ascribed to a Prescription.—The courts at Kempten, Germany, recently acquitted a physician who had been sued under the following circumstances: Called in the night to relieve gallstone colic in a young woman, he wrote an order for a solution of morphin; intending to prescribe 0.06 gm. morphin to 5 gm. water, he inadvertently wrote 0.6 gm. and made an injection of the fluid when it arrived. The patient collapsed soon after and died. In his defense he stated that she must have succumbed to some fatal idiosynerasy to morphin, as it was impossible for the injection to have contained more than the ordinary dose. The concentration was so high that the morphin must have crystallized out as the fluid cooled. The supernatant fluid could not have contained more than 4 per cent. of morphin, and he used only this fluid. The weather at the time ensured the cooling of the fluid. His assertions were sustained by the experts summoned, and he was acquitted as not being responsible for the fatality.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, March 20, 1909.

Epidemic of Influenza in London

London is suffering from the ravages of influenza, but though the disease is widespread, the number of fatal cases is not large. Last week there were 66 deaths from the disease, as compared with 36, 12, 71 and 25, respectively, in the preceding four weeks. Of the 66 deaths, 33 occurred in persons over the age of 60. Though the number of cases appears to be greater than in previous years, the type of disease does not seem to be more severe.

Bombay Medical Congress

This congress, which opened February 22, has been a success in every way. Much attention, naturally, was devoted to malaria. Major Ronald Ross delivered an address and made suggestions of the greatest value for the prevention of malaria in India. Professor Kitasato of Japan sent a paper on plague, which was read by Professor Shiga. Captain Liston of the Indian medical service read a paper on prophylactic measures against the plague. He said that there could be no question as to the efficacy of inoculation; by means of it six times as many lives would be saved. Sir Lauder Brunton contributed a paper on snake bites. He insists that "permanganate of potash is a complete antidote to snake venom if quickly applied in sufficient quantity and in the proper way." A bandage should be tied tightly around the limb above the bite, the bite should be converted into a clean cut with a lancet and the potassium permanganate, moistened with water, rubbed in. Much doubt was expressed, however, as to the value of this method. Serum treatment was also discussed, but it appears that no serum had been produced

which is useful in bites of all species of snakes. The serum which is now used in India is issued from the Central Research Institute, Kasauli. It is prepared with a mixture of cobra and daboia venom, and is therefore useful only in bites from snakes of these species. As there are 39 species of terrestrial poisonous snakes in India and about 30 species of aquatic snakes, the limited value of the serum is evident. In a paper on beriberi, Mr. Leonard Braddon maintained that the disease was due to intoxication from a specific poison contained in rice which had been exposed for some time after decortication so as to become stale. Professor Deycke sent a communication on his Nastin treatment of leprosy—a substance which he claimed acts directly on the bacilli. A report by Captain Williams, residency surgeon in the Persian Gulf, appeared to confirm this claim. Professor Musgrave of Manila read an important paper on mycetoma. Major Smith's paper on the extraction of cataract in the capsule attracted great attention. He has now performed this operation in 20,000 cases.

Smallpox Traced to Egyptian Cotton

Three cases of smallpox have occurred at Stockport and have been traced by the health officer to infected Egyptian cotton. The patients are "piecers" in the local cotton mills, and it is believed that they were infected by moistening the ends of the cotton with saliva in order to make them run in the machines. The health officer says that there is no need for alarm, as the origin has been traced, but he suggests that the operatives should be supplied with some solution so that they need not put the ends of the cotton in their mouths.

The Eugenics Review

A new quarterly periodical entitled the *Eugenics Review* will appear in April under the auspices of the Eugenics Education Society. Its object is to give expression to the eugenic movement for improvement of the race and to place eugenic thought on a scientific basis and to impress on all classes the dignities, privileges and duties of parenthood. The honorary president of the society is Mr. Francis Galton, the cousin of Charles Darwin, and the founder of the science of eugenics. He has founded and endowed the eugenics laboratory of the University of London. The *Eugenics Review* will comprise: 1. Articles by responsible writers. 2. Editorial notes on topics of the day which illustrate eugenic teaching. Notices of recent books on eugenics. 4. Official records of the work of the society. The range of the review will include biology, in so far as it is concerned with heredity and selections; antropology, in so far as it throws light on questions of race and the institution of marriage; politics, in so far as it bears on parenthood in its relation to civic worth; ethics, in so far as it promotes ideals that lead to improvement of racial quality; religion, in so far as it sanctifies and strengthens eugenic duty.

Actions Under the Workmen's Compensation Act

The Workmen's Compensation Act, which was drawn up by the government in the widest possible manner for the benefit of workmen, is constantly furnishing new and extraordinary claims. One man claimed damages for a flea-bite on the grounds that it was an accident within the meaning of the act, but this claim was scouted by the judge. Some wisdom still lingers on the judicial bench, whatever may be said of our legislators. A case has just been tried at Belfast in which a woman claimed compensation for the death of her husband, the chief engineer of a steamer, from dysentery, which occurred on a voyage to Calcutta. The judge dismissed the case, holding that dysentery was not an accident within the meaning of the act. In another case a ship's cook claimed compensation for rupture caused by the heavy seas. While his ship was in the Gulf of Bothnia the sea was so rough that rods were put on the stove to keep the pans in their places. When the ship pitched he was thrown on the point of one of the rods which caught him in the stomach. He subsequently discovered that he was ruptured. He contended that he would never again be fit to do his work, which involved the lifting of heavy weights. Medical evidence was given on behalf of the shipping company of the fitness of men suffering from rupture to go to sea. The medical adviser of the Shipping Federation showed that out of 476 men who were ruptured 279 were passed as fit for sea. The main point at issue was whether the claimant was or was not fit to go to sea. The judge awarded full compensation for one week, the claimant's wages being $5 a week, but ordered the payment to be made at the rate of 2 cents a week in order to keep the case open.

The Radium Institute

A site for the proposed Radium Institute has been acquired in Riding House Street, Portland Place. The institute will be conducted on the lines of the Paris Radium Institute, to which the newly appointed superintendent, Capt. A. E. Pinch, F.R.C.S., has gone to study the methods in use. The building will be divided into two parts, with separate entrances. One part will be devoted to poor patients, the other to those who can pay for treatment. Patients for gratuitous treatment must bring a certificate from a physician stating the nature of the case and the fact that they are unable to pay. Paying patients should, if possible, be accompanied by their physician. Failing this, they must bring a letter from him stating the particulars of the case. Demonstrations on the use of radium will be given to physicians, who will be advised as to its mode of use and as to the radioactivity of their own specimens. Building operations are being pushed, and it is expected that the institute will be opened at the end of September.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 16, 1909.

Cerebrospinal Meningitis

Dr. Netter, physician to the Hôpital Trousseau, has made to the Academy of Medicine and the Société médicale des Hôpitaux de Paris, two communications on the epidemic of cerebrospinal meningitis, which is at present raging at Paris. Netter particularly insists on the good results of intraspinal injections of antimeningococcic serum. In his personal statistics the mortality has been only 20 per cent. with the use of the serum. The injections should be made in large doses (from 20 to 30 c.c. in the child and 30 to 45 c.c. in the adult), repeated on several consecutive days, even though the first injection has been followed by a distinct amelioration, and they should be begun as soon as possible. The efficacy of the serum was confirmed by Dr. Vaillard, who spoke of cerebrospinal meningitis in the army, and particularly of the epidemic at Evreux, referred to in preceding letters. At Evreux the first five patients attacked did not receive injections of serum. They all died; while out of 18 other patients, who were treated with antimeningococcic serum, only 2 succumbed.

The Income Tax and the Medical Profession

The Chamber of Deputies has recently passed a measure for the adoption of an income tax. The following are the provisions—with the exception of modifications which may be voted by the senate—which concern the liberal professions, including that of medicine. The income tax in the liberal professions is fixed annually on the basis of the net income realized during the preceding year; in regard to those who have exercised their profession only for some months of a year, the net revenue is to be calculated on the results obtained since the date at which practice was begun. Out of the income thus determined, a deduction of a sum varying from 1,500 to 3,000 francs is made, according as the taxpayer is domiciled in a commune of 10,000 inhabitants or fewer, of 10,000 to 100,000 inhabitants, of more than 100,000 inhabitants, or finally in the department of the Seine. Moreover, out of his taxed income each taxpayer has the right to the following deductions:

Five-sixths of that portion of his income which does not exceed 3,000 francs, four-sixths of that comprised between 3,000 and 3,500 francs, and so on up to one-sixth on that comprised between 4,500 and 5,000 francs.

Every physician, yearly, during the month of January, is to send to the comptroller of direct taxation a declaration of his income. A ruling will determine, taking into consideration the obligation of the professional secret, the statements that the declaration must contain. If the comptroller accepts the declaration as true, he assesses the tax on it. If he considers it inaccurate he is to request the contributor to modify it within twenty days. If, when this period has expired, an agreement has not been come to, the comptroller will make an official valuation of the revenue. Before the administrative tribunals, the comptroller will sustain his valuation by the help of the sources of information at his disposition. The taxpayer can protest against the valuation submitted by the administration, by all means, documentary and otherwise, in his power. In any case, even if an expert investigation is

ordered, the tribunal will not be able to require the production of the physician's account-books.

In default of any declaration the comptroller will make an official valuation and communicate it to the interested party, who will have twenty days in which to contest it. If an agreement can not be arrived at during this period, the party interested may address himself to the administrative tribunals, submitting the legally prescribed declaration as the basis of his plea.

Death of Drs. Motet and Boursier

Dr. Motet, a member of the Academy of Medicine, died recently at the age of 76 years. An eminent alienist, he had a special predilection for the medicolegal side of mental alienation. Since 1865 he had been inscribed on the list of experts in the courts and tribunals of the department of the Seine. He was a member of the medicolegal society of France from the early months of its foundation, was general secretary in 1887, and president in 1904. He was also vice-president of the Association of Physicians of France.

The Faculty of Medicine of Bordeaux has recently lost its professor of clinical gynecology, Dr. Andre Boursier, author of a "Précis de Gynécologie" that is widely appreciated.

Prophylaxis of Epidemic Diseases and Compulsory Notification

The government has notified all the local health authorities to have in readiness all the measures of sanitary defense to prevent the diffusion of cholera which continues to flourish at St. Petersburg in spite of the severe cold. After detailing the measures of isolation and disinfection which must be immediately put into practice if the cholera should penetrate into France, the notice refers to the conduct of the physicians. It is recalled that in most places physicians have refrained from making the notifications required by the law of 1902, and have excused themselves by the fact that the disinfecting services were not as yet organized. While not approving of this conduct, the premier, M. Clemenceau, who sends out the notice, remarks that disinfection in the course of the disease and complete disinfection after death being essential measures, "one can understand, up to a certain point, that the physicians should await the time when the municipalities and departments should themselves have conformed to the obligations which the law imposes on them." But as soon as in a town or province the disinfecting service is organized, this excuse for abstaining from notification no longer exists. The premier relates that both the representatives of the body medical and Academy of Medicine have requested a slight modification of the law of 1902, which would consist in associating the father of the family with the physician in charge of the case as regards the notification (see THE JOURNAL, Dec. 5, 1908, p. 1985). M. Clemenceau has declared himself ready to enter on this course, and will present shortly to parliament a modification of the law in this direction. But this step will be taken only on condition that, from now on, physicians will abandon their attitude of general abstention. The premier also urges on the prefects to address to physicians a "pressing and cordial appeal," and to point out to them the particular interest which attaches to the fact that, from now on to next summer, the different disinfection services organized by the towns and departments should be brought into working efficiency by due notification of transmissible diseases. In regard to the work of the disinfection service, the prefects are to gather with care the observations and the criticisms of physicians, with a view to introducing improvements into the service. On the other hand, if certain physicians still hold aloof in uncompromising abstention, in systematic ignoring of the law, it will be the duty of the prefects to apply the legal penalties to these physicians and to exclude them rigorously from the various offices to which candidates are named by the prefects.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 11, 1909.

Results of the Social Insurance Legislation

By the invalid and age insurance law of 1889, invalid insurance societies were permitted to invest one-fourth of their resources in philanthropic enterprises, and by an amendment in 1899 this proportion was raised to one-half. Up to the end of 1908 these societies whose assets at that time amounted to $357,600,000 (1,490 million marks), had invested in loans for philanthropic purposes, about $162,000,000. Of this amount one-third had been devoted to building homes for working men, one-sixth to agriculture and one-half to building hospitals and convalescent homes and for other philanthropic purposes. As compensation for accidents, there were paid in 1908 $37,680,000, nearly $2,000,000 more than in 1907. In 1886 the amount paid as compensation for accidents was about $500,000.

Central Institute for Balneology

The German committee formed some time ago for the establishment of health institutes at the watering places and health resorts is planning the foundation of a central institute for balneology. This institution is to investigate the climatic, physical, chemical and therapeutic conditions at the various springs and study the technic of balneology as well as the business aspects of the health resort enterprises, and to conduct courses of lectures and practical exercises covering the entire ground of balneology.

Insurance of Students Against Accidents and Disability

In Charlottenburg since last October al students in the city schools of higher grade (*Ober-Realschule*) have been insured against accidents and invalidism, and in eight cases money has already been paid for sick benefits and for the expense of treatment. The insurance applies to all accidents which befall students either at the institution or on excursions which they undertake under the direction of the instructors. The annual premium amounts to 33 cents, for which the student is entitled to receive 72 cents a day as long as he is confined to his room by an injury which he has received at school, either in gymnastics or in any other way. In case of complete invalidism, the injured student receives a sum which is fixed according to the especial circumstances, with a maximum of $720 (3,000 marks).

Illness of Nurses at the Rudolph-Virchow Hospital

A small epidemic among the nurses in the Virchow Hospital is attributed to the eating of mushrooms. Although of less moment than the previous epidemic of meat poisoning, the affair has created some stir. In so large an establishment accidents will naturally happen without any blame to be attached to the management, but such instances are to be regretted, since they increase the aversion felt among the lower classes against a stay in a hospital. The supervision of the preparation of food should be more strict, although such occurrences are no more to be completely avoided than railroad accidents.

Tuberculosis Stations Established by Life Insurance Company

The *Landesversicherungsanstalt Berlin*, which has already achieved considerable success in the campaign against tuberculosis under the management of its able president, Dr. Freund, has instituted a new measure by the establishment of special tuberculosis stations for the care of the sick who must be treated at home. These tuberculosis stations are to provide sanitary dwellings for advanced cases of tuberculosis which will be under the care of nurses, to furnish the patients beds and sputum cups and to secure the regular disinfection by specially instructed disinfectors of the apartments occupied by consumptives. In addition the other members of the family are to be examined in order to detect the first signs of the disease as early as possible with a view to instituting a course of treatment, and patients discharged from sanatoria are to be examined at definite intervals and given treatment to ensure permanent results. Cases in which the diagnosis is doubtful are referred to a tuberculin institute lately established by the same insurance company.

In addition to the care of tuberculous families, the tuberculosis stations are to secure lists as complete as possible of all the tuberculosis cases in the respective districts of the city. In this task they will be aided by the central committee of the *Krankenkassen* which has concluded to report all cases of tuberculosis of the lungs and larynx. The police department has also agreed to report all deaths from pulmonary and laryngeal tuberculosis. In this way it will be possible gradually to construct an exact picture of the extent and spread of tuberculosis in Berlin.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, March 13, 1909.

Jewish Mortality in Vienna and Jewish Health

A report of the bureau of health on morbidity and mortality in various communities and localities gives special attention to the sanitary condition of the large Jewish colony

in Vienna (120,000 persons). The Jews have their own burial-ground and their own hospital, and often select their doctors on religious grounds. Exact statistics, at least in regard to mortality, are therefore obtainable.

The most striking fact is that the health of the Jews is unusually good—much better than that of the gentiles among whom they live. For instance, while there are yearly 300 cases of disease each among gentile clubs of 1,000 members, only 207 cases apiece have been found in similar Jewish clubs. The mortality figures furnish an even better standard of comparison. The mortality for the city of Vienna has come down from 21 per thousand sixteen years ago to 16.7 per thousand in 1908. In the Jewish community it is only 13 per thousand, and it has not been much higher within the last twenty years. This indicates that the preventive measures adopted by modern sanitation—cleanliness, fresh air and proper food—have been practiced by the Jewish citizens for many years in obedience to religious precepts. A comparison of the figures of infant mortality among the two races is also striking. For Vienna, the figure is 127 per thousand children under 1 year of age; among the Jews of Vienna it is only 88 per thousand. The proverbial fertility of this people is due in no small degree to the great care given to infants. Breast feeding is encouraged by religious precept. Soberness of the men, cleanliness in sexual intercourse and careful attention to the pregnant and lying-in woman are not only demanded by the religious code but observed. The increase of insanity among the Jews is a serious fact. While there was an increase of cases of insanity among the gentiles from 16 per ten thousand in 1890 to 48 per ten thousand in 1908, the insane among the Jews have increased from 16 per ten thousand in 1890 to 102 per ten thousand in 1908. The average life expectation among Jews and gentiles does not differ much, but there are relatively more octogenarians among the former.

The distribution of the sexes is nearly equal in the two groups of the population: 1,062 boys to 1,000 girls among the new-born, 1,040 girls to 1,000 youths at the age of eighteen, and 1,040 women to 1,000 men in the forties. The figures for the Jews are a little more favorable to the men. A marked difference between the two races is observed in respect to marriages. Only 8 per cent. of the Jewish girls do not marry; more than 12 per cent. of the gentile girls remain spinsters; and, while only 10 per cent. of the Jewish men are bachelors, 14 per cent. of the gentile men remain unmarried up to their fiftieth year.

Pharmacology

A TOXIC HAIR DYE AND ITS ANALYSIS

Two More Cases of Poisoning with Mrs. Potter's Walnut Juice Hair Stain

To the Editor:—A woman came to me for treatment a short time before Dr. Schalek's and Dr. Baker's reports of cases of dermatitis venenata due to "Mrs. Potter's Walnut Juice Hair Stain" appeared in THE JOURNAL (Feb. 13, 1909, p. 557, and March 6, 1909, p. 787). The patient, who had used the same preparation, presented a picture identical to that which they described.

W. W. HARRINGTON, M.D., Spokane, Wash.

To the Editor:—I have recently treated a case of dermatitis venenata resulting from the use of "Mrs. Potter's Walnut Juice Hair Stain." One application of the dye resulted in such a severe inflammation that I feel confident the patient will never use the preparation again. The dermatitis extended from the scalp over the face, neck and shoulders, and ran its usual course of about ten days. Following this acute attack, a subacute eczema resulted, involving the scalp, face, neck, trunk and arms. This persisted for six weeks, resisting treatment in the most stubborn manner.

JAMES DOUGLAS GOLD, M.D., Bridgeport, Conn.

COMMENT: "Mrs. Potter's Walnut Juice Hair Stain," manufactured by the Mrs. Potter Hygienic Supply Co., Cincinnati, has been analyzed by the chemists of the North Dakota Agricultural Experiment Station. The advertisements state that the preparation contains "no sulphur, lead or silver," and is "especially recommended for hair that has been bleached or discolored with peroxid or other powerful chemicals." The samples examined consisted of two bottles of liquid, called No. 1 and No. 2, respectively, the contents of which, the directions say, should be mixed before the dye is applied to the hair. Bottle No. 1 was found to contain 1.86 per cent. absolute hydrogen peroxid. Bottle No. 2 contained a "strongly alcoholic liquid of a light brown color, contents 54.45 per cent. absolute alcohol by volume." No lead, bismuth or mercury compounds were detected. Says the report: "The active principle or dye appears to be a phenolic compound and conforms to the tests, etc., for para-phenylene diamin, an anilin derivative which, on oxidation, becomes black or brown." The report goes on to quote from an article published in the *Revue Scientifique*, April, 1908, in which Schuller discusses very fully "those hair dyes prepared with para-phenylene diamin." Says Schuller: "Under the influence of oxidizing agents, para-phenylene diamin forms a black pigment, quinone diimid,* a very poisonous substance which is capable of much mischief under certain circumstances. The hair dye is prepared by treating the tincture of para-phenylene diamin with hydrogen dioxid. The toxicity of quinone diimid does not manifest itself with equal intensity in all persons. The symptoms of poisoning consist in a cutaneous eruption, with intolerable itching, and more or less violent headache. It has been known to produce swelling of the limbs and bloating of the face. These symptoms are quite variable in their severity and in many instances are so slight that their significance remains unrecognized." The North Dakota report closes with the statement: "This preparation does not show the percentage of alcohol present and is mislabeled, inasmuch as the principal ingredient is not 'walnut juice,' but a synthetic compound."

Para-phenylene diamin is a coal-tar product used as a dye. It is very toxic and in its manufacture great care is required on the part of the workmen to prevent poisoning. In the *Pharmazeutische Centralhalle*, March 4, 1909, p. 190, a warning appears, issued by the government of Saxony, against two hair dyes containing this chemical. In spite of these facts, this substance is sold indiscriminately as a "harmless" hair dye, with no warning as to its dangerously toxic effects.

Revision of the National Formulary

At the meeting of the American Pharmaceutical Association, last September, provisions were made for revising the National Formulary, a book adopted with the Pharmacopeia as determining the standards of purity and strength for drugs and medicines under the provisions of the Food and Drugs Act. That many of the features of this book are in need of careful revision is evident. The matter of nomenclature of official preparations is one of serious importance and physicians could do much to improve the National Formulary, and for that matter also the Pharmacopeia, if they would take an interest in the subject. It should be insisted that meaningless or misleading names be replaced by titles that will comply with the requirements of the law. Then those entrusted with the enforcement of that law will not continue to be hampered by the shortcomings of the standards adopted by its provisions.

When the National Formulary was discussed recently at the City of Washington Branch of the American Pharmaceutical Association, Dr. Wiley said: "The harmonizing of the nomenclature with the letter and spirit of the law, so far as the committee on revision of the National Formulary is concerned, is clearly a case of *'noblesse oblige.'* Nothing in the National Formulary should conflict with the requirements of the Food and Drugs Act. It is advisable to call a spade a spade and to insist that the national standards contain nothing but 'pure-bred' nomenclature, that this nomenclature be based on a principle and that that principle be honesty.

* According to Erdmann (Ber. d. deutsch. chem. Gesellsch., 1904, p. 2906), the coloring matter is not quinone diimid, but a substance formed by the condensation of three molecules of the quinone diimid formed in the course of the reaction. Erdmann also calls attention to the toxicity of quinone diimid.

Now that physicians have been aroused to take cognizance of conditions that prevail, or have prevailed, regarding proprietary medicines, it seems reasonable to suppose that they will seek to remedy the glaring defects of the National Formulary—one of the two official standards for the quality and strength of drugs.

Correspondence

Training for Public Health Officers

To the Editor:—In THE JOURNAL, Feb. 20, 1909, appears an excellent and timely article by Dr. J. W. Kerr of the U. S. Public Health and Marine-Hospital Service, on "The Municipality and Its Relations to Transmissible Diseases." In that article (page 610) the author deplores the fact that the systematic, practical teaching of hygiene, sanitation or preventive medicine, as it may be called, has been and is conspicuous by its absence from the curricula of American schools.

He states: "There is now practically no provision for such advanced study, and no institution in our country offers a course leading to the granting of the degree of doctor of public health." It was that statement that called forth this communication.

For a number of years the University of Pennsylvania has recognized the need for trained men in public-health work. Just how to meet the requirements could not, *a priori*, be said. Systematic lectures on the subject to the senior medical classes with obligatory attendance and final examination proved to be only in part a solution.

There are phases of the subject that can not be grasped without practical work, and a good deal of it. The manifold demands of a modern course, leading to the degree of doctor of medicine, makes it inadvisable, if not impracticable, to assign a sufficient number of hours in course properly to equip the individual for the many-sided responsibilities of a health officer.

The education of a person who is to direct the public-health affairs of a community deserves the same careful consideration accorded to the other specialties in medicine. The University of Pennsylvania, being conscious of this, offered in 1906 a course leading to the diploma of public health, and in so far as I am aware, that course, projected along the lines followed by the English and Scottish universities, is the first of its kind offered in this country.

Since the announcement of that course, a number of praiseworthy efforts by other universities have been made to excite public interest in this important subject. These efforts in the main, however, have been in the way of didactic lectures, in some cases to medical students, in others, as more or less semipopular lectures designed for the busy practitioner and the intelligent layman. None of them contemplates a formal reward on the part of the university to those who take the lectures, except in one or two instances where credit is given to students attending them. In a few cases, attendance on such lectures, given in medical courses, is compulsory; in others, the lectures are voluntary or elective.

In 1908 the University of Toronto announced an excellent course of instruction very similar in its essential details to that offered by the University of Pennsylvania.

Though opportunities for instruction in public health are offered, it can not be said that they lead to a degree; that they are general on the part of the universities; or that many students avail themselves of them. There is a reason for the latter statement. At present, scientific equipment and practical familiarity with the needs of the work are not everywhere demanded as the prime qualifications for the health officer; there are too frequently other considerations, but these need not be discussed here. However, the strenuous effort toward the betterment of things exhibited in our daily and weekly newspapers, our popular magazines and our professional journals, must in the end bring the public to realize that of all the branches of municipal, state or federal governments, none is of more importance, and none requires a higher order of broadly trained men, than those having to do with the safeguarding of the public health.

When demand for such men is generally made, when trained men can see an opportunity to utilize their special equipment in public-health work, then and not till then will universities and other educational institutions provide the opportunities for training.

A. C. ABBOTT, M.D., Philadelphia.

The Relief of Dr. Carroll's Widow

WASHINGTON, D. C., March 29, 1909.

To the Medical Profession:—The following resolution was adopted by the Legislative Council of the American Medical Association at its meeting in Washington, D. C., in January, 1909:

Resolved: That a committee composed of one member of the Medical Department of the Army, one of the Medical Department of the Navy, one of the Public Health and Marine-Hospital Service, one member of the District of Columbia Medical Society, and one member to represent the profession at large, members of the council, be named by the chairman, and instructed to present to the different medical services of the government, the District of Columbia, and the profession at large the conditions of distress under which the widow of our hero brother, Major James Carroll, is placed, and suggest or help to devise such plan and action as may speedily bring relief.

The chairman appointed the following committee: Major M. W. Ireland, U. S. Army; Surgeon W. H. Bell, U. S. Navy; Surgeon John F. Anderson, U. S. P. H. and M.-H. S.; Dr. John D. Thomas, District of Columbia; Dr. A. S. von Mansfelde, Nebraska.

At the death of Major Carroll, Sept. 16, 1907, his family was left practically unprovided for. There was a small insurance policy, and a short time prior to his death Major Carroll had begun making payments toward the purchase of a home in Washington. A mortgage of $5,000 remains unpaid on the house and a further debt of $2,300 secured by notes payable at the rate of $50 a month. Congress allowed Mrs. Carroll $125 a month, and on this amoun- depends the support of herself, the aged mother of Major Carroll and seven minor children. It is utterly impossible for her to make the payments on the house, and unless assistance is speedily forthcoming she will lose it.

It is certainly needless to repeat to the members of the medical profession of this country the distinguished service of Major Carroll as a member of the yellow-fever board in Havana when he submitted to an experiment to prove that the disease was transmitted by a mosquito. He suffered a severe attack of yellow fever and for a time his life was despaired of. This illness left him with a disabled heart, which eventually cost him his life. It is believed that every physician is willing to contribute toward saving the home of the widow and orphans of this hero.

In response to this resolution, your assistance is invited toward the attainment of the worthy object expressed in the above resolution.

The following contributions to the Carroll fund have been received:

Officers of the Medical Corps, U. S. Army	$1,500.00
Officers of the Medical Department, U. S. Navy	400.00
Officers of the U. S. P. H. and M.-H. S.	300.00
Officers of the District of Columbia	210.00
Mrs. Frances E. Hand, New York City	50.00
Dr. Eugene A. Crockett, 298 Marlborough St., Boston	5.00
Dr. Edmund A. Christian, Supt., Eastern Michigan Asylum, Pontiac, Mich.	1.00
Dr. W. E. Clark, Frederick, S. D.	5.00
Dr. George W. Gay, 665 Boylston St., Boston	10.00
Dr. L. Hektoen, Memorial Institute for Infectious Diseases, Chicago	5.00
Dr. Emil King, Fulda, Minn.	1.00
Dr. John A. Koch, Quincy, Ill.	5.00
Fountain and Warren Medical Society, Attica, Ind.	12.95
	$2,504.95

M. W. IRELAND, Chairman.

[Contributions for this fund are earnestly requested from physicians. Make checks, drafts, etc., payable to Major M. W. Ireland and send them to him at the office of the Surgeon-General, War Department, Washington, D. C. Acknowledgment of subscriptions will be made in THE JOURNAL.]

The Newer Neurology

To the Editor:—In THE JOURNAL, March 20, 1909, p. 982, Dr. Blackburn still classifies acute anterior poliomyelitis as a "system disease"—a disease of the lower motor segment—in his scheme for a "postgraduate course for county societies." This is unfortunate, for it represents an old and discarded conception and helps to keep alive the confusion and pessimism among general practitioners in regard to neurology.

The idea that acute anterior poliomyelitis is a disease of the lower segment had its origin with Charcot, who based his pathology and classification on cases examined only in the late and chronic stages.

It is recognized to-day that acute anterior poliomyelitis is merely a form of myelitis; primarily a vascular or inflammatory trouble, which, for anatomical reasons, is more or less confined to the anterior horns of the cord. The chromatolytic changes in the ganglion cells are consecutive or associated phenomena. The latter, however, do not classify the disease as a primary "systemic" trouble of the lower motor segment any more than the degeneration observed in the pyramidal cortical neurones; after a cerebral apoplexy or inflammation, make of the former a primary systemic disease of the upper motor segment. Without referring to my work and the emphasis laid therein on this modern conception of the disease, I will quote the words of Starr in the last edition (1907) of his "Nervous Diseases": "The majority of recent pathologists believe that in anterior poliomyelitis there is an acute inflammatory process limited to the domain of the anterior spinal arteries, involving both the neuroglia and the ganglion cells and resulting in degeneration and atrophy both of the interstitial tissue and of the ganglion cells. . . . In a number of cases, the explanation of the origin of the process is found in a thrombosis of one of the branches of the spinal artery or in a hemorrhage into the anterior horn."

In a word, then, acute anterior poliomyelitis is a myelitis, a vascular trouble primarily. The chromatolytic changes in the ganglion cells whereon the old Charcot conception of the disease was based, and whereby it is to-day classified by belated students of neurology as a "system" disease of the lower motor segment, are of the nature of mere consecutive or associated phenomena.

The distinction between the two conceptions has a most important bearing on the etiology, prognosis and treatment of the disease, as I have shown elsewhere.

L. HARRISON METTLER, Chicago.

Accident Insurance

To the Editor:—The case reported by Dr. Robert T. Morris in THE JOURNAL, March 13, under the title, "Appendicitis and Accident Insurance," induces me to report a case now going through the courts in Iowa.

A traveling passenger agent, aged 62, in perfect health and an unusual specimen of physical manhood, who had never previously had a severe illness, found one morning that his regular defecation was impossible in consequence of agonizing pain in the rectum on the slightest attempt. After several ineffective efforts, at his wife's suggestion and in her presence he lubricated his finger with vaselin, and with difficulty removed from the rectum a piece of fish bone which had been caught there transversely. He recognized from the blood at the time that he had injured himself. This happened in Chicago on Monday morning. On Tuesday afternoon I saw him at my office, received the above history, and examined him without any instrumentation. Just within the sphincter was a tear of the mucous membrane about three-quarters of an inch long. This was cleansed and touched with solution of tincture of iodin, carbolic acid and chloral hydrate. From this slight lesion a most severe case of septic infection developed. The whole cellular tissue of penis, scrotum and ischiorectal fossæ, and of the intermuscular abdominal planes, was successively invaded, became gangrenous, and death ensued.

The patient held accident insurance in several companies. On the third day I assisted him to make out the necessary reports required by the policies. All the companies but one immediately paid the insurance. The one company declined payment on the ground that the terms of the contract had not been complied with, inasmuch as the deceased had not notified the company of the date and nature of the accident, which it contended, within the meaning of the law and the contract, occurred when the insured swallowed the bone! The widow brought suit, plaintiff's attorney arguing that not the swallowing of the bone, but the laceration of the mucous membrane and consequent infection, constituted the accident. The presiding judge sustained the plaintiff. The case was appealed by the accident company, and is now before the higher court.

The absurdity of the company's contention, which would require a policy holder to "keep tab" on all the foreign and toxic substances present in his daily food, and, whether conscious at the time of the fact or not, to report to the company that he had "swallowed something" by accident that might eventually prove injurious, is obvious.

J. H. GREENE, M.D., Dubuque, Ia.

Benzoate of Soda in Foods

MARCH 20, 1909.

To the Editor:—I must request you to correct a misrepresentation of the position relative to sodium benzoate in my letter published March 13. If your correspondent of the current issue had read the letter with sufficient care, he would have learned that what I "put perfectly clear" was that the argument against sodium benzoate produces the impression of an effort to mislead the public rather than to give due regard to the facts. Considering that we have not yet seen the report of the referee board, and, moreover, since it has not yet been made public, that the board is not in a position where it can defend its conclusions, we must realize that, especially in view of the eminence of those composing the board, any criticism of their conclusions at this time is premature and ill advised. If we recall that ripe rot is the normal method by which vegetable matter tends to return to the earth from which it has grown in plant construction, we should know that decay is not due to the careless handling of raw material, but is the inevitable result of exposure to the air of all succulent vegetable products that do not contain preservative.

We need only consult our materia medica to note that acetic acid, all of the many spices, salt, sugar, onions, garlic, in fact, all of the ingredients catchup excepting tomato itself are drugs, as well as sodium benzoate; yet these are all allowed in food without regard to the possibility that they may not be harmless when indiscriminately used by "infants, children and those wavering between life and death." We must avoid confusing an essentially injurious quality with the possibility of an injurious effect from unusual conditions, such as the ingestion of inordinate quantities. Anything and everything, including the most nutritious food, may be deleterious under exceptional circumstances. What we have to determine with a given substance is whether it is essentially injurious or whether it resembles other food ingredients in becoming so only under some unusual conditions.

E. E. SMITH, M.D., New York City.

Compound Comminuted Fracture of the Hip Followed by Bony Union and Movable Joint

To the Editor:—In THE JOURNAL, Aug. 4, 1906, I reported a case of gunshot wound through the great trochanter and hip joint, from which shot pieces of clothing, gun wads and fragments of bone were removed. The patient, a farmer, recently presented himself for examination and the findings are such that I am sure that they will be of interest to the profession generally. The man is able to do his work as well as ever. There is three-quarters of an inch shortening, for which he wears a slight elevation of the heel of his shoe. Every motion in the joint is almost perfect. I believe that the excellent results in this case are due to the facts that the wound was filled with Moorhof's bone wax, and that the two-way extension of Maxwell was applied.

JAMES E. MOORE, Minneapolis.

Miscellany

Transmission of Disease by Insects.—F. C. Wellman (*Proceedings of the Pathological Society of Philadelphia*, February, 1909) illustrates the value of a knowledge of entomology to the physician by a consideration of the relation of a number of insects to disease. The ticks are of especial importance in Africa where Wellman has made his investigations. The disease-bearing species is known to communicate African relapsing or tick fever. Half the force engaged in building railroads are sometimes sick with exacerbations of this fever. On investigation, Wellman found that the ravages of the disease could be checked by having the men sleep in hammocks suspended by ropes. A knowledge of the character and habits of the insects enabled him to protect the patients. Wellman has also made the discovery that this tick conveys a filaria. Wellman believes that the tick fever of Persia is also caused by a spirochete and suggests that this whole genus of ticks should be investigated. The interesting fact that the habitat of the tsetse flies is confined within belts of territory is of great importance in preventing sleeping sickness. If one is ten feet outside of a fly belt he runs little chance of being bitten. This is illustrated by several incidents. The caravans crossing a river in the midst of a fly belt in a certain city used to carry cases of sleeping sickness down to the coast. By changing the route a few yards upstream, this source of infection was avoided. One village, situated in a fly belt, was also decimated. Wellman advised the removal of the village to a location about a quarter of a mile away, which was done, and to this day there has not been a single case of sleeping sickness in that village. But a man who subsequently insisted on placing some of his bungalows in one corner of the belt paid the penalty of his rashness by becoming infected with sleeping sickness, which necessitated his return to London. While beetles are not usually regarded as sources of disease, there are some which are parasitic on animals and which should be more carefully studied. A species of hymenoptera seems to be responsible for the dissemination of anthrax in Cyprus, as large numbers of them were found on the bodies of sheep dead of anthrax. Children are fond of playing with these insects. In conclusion, Dr. Wellman lays stress on the third factor in tropical diseases, the first two being the patient and the insect that transmits to him the disease. The third factor is constituted by the members of the dark-skinned race, who act as a culture medium, carrying the infective organisms without visible harm to themselves, but transmitting them to the white men.

Reagent for Sugar.—Benedict, in the *Journal of Biological Chemistry*, February, 1909, proposes the following formula as a substitute for Fehling's reagent:

	C.C. or Gms.
Copper sulphate (pure crystallized)	17
Sodium citrate	173
Sodium carbonate (anhydrous)	100
Distilled water	to 1000

With the aid of heat dissolve the sodium citrate and carbonate in about 600 c.c. of water. Pour (through a folded filter if necessary) into a graduate and make up to 850 c.c. Dissolve the copper sulphate in about 100 c.c. of water and make up to 150 c.c. Pour the carbonate-citrate solution into a large beaker or casserole and add the copper sulphate solution slowly, with constant stirring. The mixture is ready for use. The following is the procedure for the detection of dextrose in the urine: To about 5 c.c. of the reagent in a test tube 8 drops (not more) of the urine to be examined are added. The fluid is then heated to boiling, kept at this temperature for from one to two minutes and allowed to cool spontaneously. In the presence of dextrose the entire body of the solution will be filled with a precipitate which may be red, yellow or green. Urine containing 0.08 per cent. of dextrose gives a very positive reaction with this test.

Scopolamin-Morphin for Chronic Painful Affections.—Schlesinger and Flesch reported separately at a meeting of the Vienna *Gesellschaft für innere Medizin und Kinderheilkunde*, Feb. 11, 1909, on the use of scopolamin-morphin in chronic affections accompanied by such incessant or spasmodic pain or suffocation that morphin otherwise has to be given as a routine measure. Extremely small doses suffice, and no inconveniences were observed even when this combination was given daily for weeks and months. One of Plesch's patients was a tabetic with crises of pain in the extremities so severe that 0.02 gm. (0.3 grain) morphin was regularly required, but a single dose, representing 0.0008 scopolamin and 0.0075 gm. morphin, proved even more effectual, and since then he has found half this dosage sufficient. The same dose promptly relieves another patient with asthma and he wakes from the refreshing sleep induced without vomiting or the headache that used to follow the large doses of morphin required to relieve the suffocation. Schlesinger uses a 0.0004 per cent. solution of scopolamin, injecting subcutaneously one or two Pravaz syringefuls, accompanied by a little morphin. The relief from pain is almost immediate, and the patients say they feel better than when they used to have an injection of 0.2 or 0.3 gm. of morphin a day. The customary dose of morphin can be reduced to one-tenth when accompanied by the scopolamin, without the patient's suffering from the lack of the accustomed drug. He warns, however, that the mixtures must be freshly made, rejecting those with a turbid aspect. His experience suggests that this combination may prove useful in treating morphin addiction.

Ionic Potential a Factor in Toxicity.—That a relation exists between the toxic action of any ion and the ease with which it parts with its electric charge, has been shown by Mathews (*Jour. Biological Chemistry*, February, 1909), who proved that the amount of action any ion can exert on protoplasm depends primarily on the amount of available potential energy it contains. The fact of a direct relationship between the toxicity of any ion and its content of available potential energy (*i. e.*, its valence, its ionic potential), is now well established by experiments. Pond, however, threw doubt on this hypothesis in consequence of certain experiments to determine the power of various salts to inhibit the action of lipase on ethyl butyrate. Nicoll has reviewed the work of Pond and shows that his conclusions were incorrect because he did not take into consideration the solubility of the salts in ethyl butyrate. Unless the salts were soluble in ethyl butyrate they could not interfere with the action of the lipase which must enter into solution in the fat before it can decompose it. Nicoll concludes that the power of the nitrate salts of various metals to inhibit the action of lipase on ethyl butyrate is a function chiefly of the energy content or ionic potential of the cations (metals). Zinc alone occupies a markedly abnormal position. It is suggested that some of the exceptions noted by various observers in the toxic order of the salt toward various cells, may be due in part to the fact that only the concentration of the salts in water, not that in protoplasm, has been considered, whereas the concentration in the protoplasm is the effectual concentration.

Tissue Antisepsis with Reference to Animal Infection.—At a recent meeting of the Therapeutic and Pharmacologic Section of the Royal Society of Medicine (*Proceedings of the Royal Society of Medicine*, February, 1909), Dr. A. R. Cushny pointed out the failure to realize the hopes of a successful internal bactericidal treatment of infections aroused by the success of surgical antisepsis. Bacteria are more resistant to chemical germicides than are the tissues, so that efficient bactericides cannot be introduced into the blood without killing the patient and their activity *in vitro* is much reduced in the presence of the colloids of the blood and tissues. Even in the alimentary canal evacuation has proved more satisfactory than antisepsis. The attempt to disinfect the lungs by inhalation is frustrated by danger of injury to those delicate tissues and by the respiratory reflexes which restrict the entrance of irritant vapors. Cushny, therefore, discredits the ozone, creosote and similar treatments. In contradistinction to the failure of specific treatment in diseases in which vegetable organisms (bacteria) are the infectious agents, real specifics have been found in malaria and syphilis, the causes of which are animal organisms. Of late sleeping sickness, also due to an animal organism, has been shown to be susceptible to

specific treatment. Trypanosomes are especially sensitive to the members of the arsenic group, and, as Cushny's experiments prove, are more easily killed by these agents than are ordinary protozoa. Since the protozoa rapidly become immune to toxic agents, prompt use of efficient doses and the coincident use of several agents rather than a single drug are indicated.

Crocodiles and Sleeping Sickness.—In *Nature*, February 18, appears a communication from Dr. E. A. Minchin, whose researches on tropical diseases are well known, concerning the connection of crocodiles with sleeping sickness. His attention was especially directed to the subject by a statement in a paper by Mr. James Cantlie that the crocodile is believed to be the alternative host of the organism causing sleeping disease of Africa. He says also that there seems to be a general impression that Professor Koch either observed or believed that the crocodile is a "reservoir" host for the *Trypanosoma gambiense*, and while Dr. Minchin does not know where Mr Cantlie got the basis for his statement, he quotes from Prof. Koch's last work, "*Ueber meine Schlafkrankheits Expedition*" (Berlin: Dietrich Reimer, 1908), to show that Koch never made such a statement. On the contrary he expressly states that while the blood of the crocodile contains trypanosomes it is not the form that produces sleeping sickness, a fact which had been made known before by British observers. The bare fact that the crocodile may be thus infected is not any evidence for connecting this reptile with the disease, and it is inherently improbable, Minchin says, that any reptile should play such a part. It is possible and probable that a "reservoir" host for *T. gambiense* exists, but as yet none has been discovered. Only the human species has so far been found to be naturally infected with this organism, though many other mammals can be inoculated with it in the laboratory. Minchin publishes this communication in order to have the scientific facts in regard to the disease, so far as ascertained, correctly stated, which was not done by Cantlie.

Resection of the Utero-ovarian Plexus in Treatment of Hysteria.—G. Cavazzani of Venice since 1899 has done this operation in 22 cases, mainly for the hysteriform syndrome that follows the natural or artificial menopause, or for pure hysteria. The benefit was always prompt and constant. He gives the details of the 22 cases in a communication to the *Riforma Medica*, Dec. 7, 1908, page 1354. In one case there was evidently regeneration of some of the fibers of the plexus later, as the disturbances recurred after an intercurrent typhoid fever, with symptoms of inflammation in the left hip joint, abscesses and furuncles on the same leg. The segment of the sympathetic involved was resected anew and the ovary, found much degenerated, was also removed. This was followed by subsidence of the false coxitis and restoration to normal in every respect. His patients were between 20 and 35. Another patient presented the syndrome of hysterotraumatic kyphosis, a scoliotic sciatica on a base of hysteria, with intolerable pain until cured by resection of the plexus. Ruggi would restrict the operation to morbid conditions in the internal genitals in women inclined to neuroses and hysteria; but Cavazanni operates on hysterics irrespective of the condition of the internal genitals, and his constant success has confirmed him in this principle. He gives the bibliography of the subject from Jaboulay and Ruggi in 1899 to Lasanna and Ginevra in 1907.

Tardy Fatal Complications of Plague.—De Leon writes to the *Semana Medica* to relate two cases in which the patients had improved under serotherapy and were apparently far on the road to recovery when brain and spinal cord symptoms developed and rapidly proved fatal. He is inclined to believe that the effect of the serotherapy had worn off by this time, thus allowing the plague bacilli still present in the organism to produce these fatal complications even although the bacilli were notably attenuated. Such cases as these suggest the necessity for continuing the serum treatment longer or else increasing the dosage beyond that which is usually deemed sufficient.

Association News

OFFICIAL CALL

Sixtieth Annual Session of the American Medical Association, Atlantic City, N. J., June 8-11, 1909

The sixtieth annual session of the American Medical Association will be held on Tuesday, Wednesday, Thursday and Friday, June 8, 9, 10 and 11, 1909, at Atlantic City, N. J.

The House of Delegates will convene at 10 a. m., Monday, June 7. In the House, the representation of the various constituent associations for the years 1907, 1908 and 1909 is as follows:

Alabama	3	Nebraska	2
Arizona	1	New Hampshire	1
Arkansas	2	New Jersey	3
California	3	New Mexico	1
Colorado	2	New York	11
Connecticut	2	Nevada	1
Delaware	1	North Carolina	3
Dist. Columbia	1	North Dakota	1
Florida	1	Ohio	6
Georgia	2	Oklahoma	2
Hawaii	1	Oregon	1
Idaho	1	Pennsylvania	8
Illinois	7	Rhode Island	1
Indiana	4	South Carolina	2
Iowa	3	South Dakota	1
Kansas	3	Tennessee	2
Kentucky	3	Texas	5
Louisiana	2	Utah	1
Maine	1	Vermont	1
Maryland	2	Virginia	3
Massachusetts	6	Washington	1
Michigan	4	West Virginia	1
Minnesota	2	Wisconsin	3
Mississippi	2	Wyoming	1
Missouri	4	Philippine Islands	1
Montana	1		

The twelve sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health and Marine-Hospital Service are entitled to one delegate each.

The General Meeting, which constitutes the opening exercises of the scientific functions of the Association, will be held at 10:30 a. m., Tuesday, June 8.

The Registration Department will be open from 8:30 a. m. until 5 p. m., on Monday, Tuesday, Wednesday and Thursday, June 7, 8, 9 and 10, and from 9 to 10 a. m., on Friday, June 11.

HERBERT L. BURRELL, President.
GEORGE H. SIMMONS, General Secretary.

ATLANTIC CITY SESSION

Announcement of Local Committees and Section Headquarters for the Approaching Convention

The Trustees' Committee of the American Medical Association makes the following announcement as to the local committees, and of the section headquarters. As yet they are not prepared to make the report with reference to the meeting places; this, however, will be done at an early date.

LOCAL ENTERTAINMENT COMMITTEE

Dr. J. A. Joy ..... Chairman
Dr. E. H. Harvey ..... Treasurer
Dr. E. J. Porteous ..... Secretary

SUBCOMMITTEES

Special entertainments ..... Dr. Emery Marvel, chairman
Ladies' entertainments ..... Dr. Clara Bartlett, chairman
Alumni reunion ..... Dr. Francis Burnett, chairman
Section dinners ..... Dr. A. L. Atherton, chairman
Hotels ..... Dr. W. E. Jonah, chairman
Badges ..... Dr. E. C. Chew, chairman
Halls and meeting places ..... Dr. T. G. Dunlap, chairman
A. M. A. Bureau of Information ..... Dr. M. S. Ireland, chairman
Postoffice, telephone, telegraph ..... Dr. S. Barbash, chairman
Registration ..... Dr. J. C. Mevay, chairman
Scientific exhibit ..... Dr. I. E. Leonard, chairman
Commercial exhibit ..... Will C. Braun (Chicago) chairman
Program ..... Dr. George Scott, chairman
Printing ..... Dr. B. R. Lee, chairman
Section meetings ..... Dr. W. P. Conaway, chairman
Finance ..... Dr. W. B. Stewart, chairman
Atlantic City Publicity Bureau ..... Mr. George S. Lenhart, secretary
A. M. A. Daily Bulletin ..... Dr. E. Guion, Asst. Editor

HEADQUARTERS

General Headquarters ..... Marlborough-Blenheim
Practice of Medicine ..... Hotel Dennis
Surgery and Anatomy ..... Hotel Chalfonte
Obstetrics and Diseases of Women ..... Haddon Hall
Diseases of Children ..... Hotel Traymore
Nervous and Mental Diseases ..... Hotel Brighton
Hygiene and Sanitary Science ..... Hotel Seaside
Pharmacology and Therapeutics ..... Hotel Chelsea

Ophthalmology ..... Hotel Rudolf
Laryngology and Otology ..... Hotel St. Charles
Cutaneous Medicine and Surgery ..... Hotel Shelburne
Pathology and Physiology ..... Hotel Windsor
Stomatology ..... Hotel Royal Palace

PHILIP MILLS JONES, San Francisco.
WISNER R. TOWNSEND, New York City.
PHILIP MARVEL, Chairman, Atlantic City, N. J.
Trustees' Committee of Arrangements.

THE SCIENTIFIC EXHIBIT

Notice of Awards of Prizes and Plans for Atlantic City Display

The prospects of the Scientific Exhibit for the Atlantic City Session are most flattering. Generous contributions are already assured from Philadelphia, New York and Boston. To prospective exhibitors it may be said that as a rule serial exhibits in illumination of some phase of pathology or experimental investigation, prove most instructive. To be sure, very rare specimens of whatever sort are acceptable.

To stimulate wholesome competition the plan of a year ago will be followed, of granting awards of honor to a few exhibitors presenting unusually meritorious work.

Diplomas of Honor.—To a very limited number of institutions or individuals presenting exhibits of very superior merit, the committee on awards will grant illuminated diplomas bearing engravings of Harvey, Pasteur, Koch and Davis, formally signed by officials of the Association.

Gold Medals.—For the best exhibit of Research Work, and for the best tuberculosis exhibit.

The latter, however, must comply with the following requirements: (a) The exhibit must be comprehensive and complete in elucidating the whole tuberculosis problem, in a manner plain and convincing to the lay mind; covering the causation, nature, prevention and cure of the disease. (b) Stability, compactness and adaptability for installation in railway stations, postoffice buildings and public libraries.

The usual tuberculosis exhibits are cumbersome and expensive to maintain. Necessarily they have only been presented in large cities, and then at long intervals and for brief periods. It is hoped to develop a model exhibit, which will occupy small space and can be maintained constantly at small expense by public health authorities in the public buildings of smaller cities.

FRANK B. WYNN, Director, Indianapolis.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CAUSES AND CHARACTERISTICS OF PETECHIÆ

To the Editor:—1. Would any of the exanthemata cause ulceration on external surfaces or hemorrhages from the mucous membrane? 2. Are such ulcerations liable to occur in purpura? 3. Are petechiai spots and ecchymoses finally developing into ulcers characteristic of purpura? X. Y. Z.

ANSWER.—1. The exanthemata, with the exception of variola and varicella, are rarely followed by ulceration. In malignant cases petechiæ and ecchymoses as well as hemorrhages from the mucous membrane may occur, but such cases are usually fatal before ulceration has taken place.

2. Ulceration is not a complication of purpura. If there is swelling and ulceration scorbutus should be suspected rather than purpura.

3. Petechiæ and ecchymoses are the characteristic skin lesions of purpura, but seldom or never ulcerate.

TRANSACTIONS OF CONGRESS ON TUBERCULOSIS

Several readers ask when the "Transactions of the International Congress on Tuberculosis" will be issued. Dr. John S. Fulton, (Colorado Bldg., Washington, D. C.), secretary-general of the congress, writes that the transactions will be ready early in May. They will appear in six volumes of approximately four thousand pages. Active members of the congress will receive them without cost. The price to non-members will be fifteen dollars per set.

SCARLET RED IN MEDICINE

To the Editor:—Please give me information regarding the dye called scarlet red. B. K. ELLIS, Greeley, Colo.

ANSWER.—Scarlet red is said to be amido-azo-touol-azo-beta-naphthol. It is a reddish-brown powder, insoluble in water, sparingly in benzol and acetone and cold alcohol, more readily soluble in hot alcohol, easily soluble in chloroform, fats and phenols, sparingly soluble in cold paraffin but readily in warm. Fischer found that this substance exerted a chemotactic influence on epithelial tissue, causing it to proliferate in an atypical way, suggesting carcinoma. (See editorial in THE JOURNAL A. M. A., Nov. 10, 1906, p. 1566.) Recently this power of causing proliferation of the epithelium has led to its application in the treatment of burns and injuries complicated by loss of considerable areas of skin. The dye can be made into an ointment by rubbing up with the ointment base or with oil with gentle heat. The following formula is given (*Vierteljahresschrift für praktische Pharmazie*, 1908, No. 4):

R.
Rubri scarlatini ..... 1—2 gr. xv—gr. xxx
Petrolati.
Adipis lanæ hydrosi āā ad 20 3v
M. et f. ung. Sig.: For external use.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 27, 1909:

Lewis, W. F., major, relieved from duty at Fort Thomas, Ky.; will sail from San Francisco, June 5, 1909, for Philippine service.
Pierson, R. H., captain, granted leave of absence for 30 days.
Siler, J. F., capt., relieved from duty at Fort Jay, N. Y., and ordered to duty at the Medical Supply Depot, New York.
Stone, J. H., major, relieved from duty at the U. S. Military Prison, Fort Leavenworth, Kan., and ordered to Fort Sam Houston, Texas, for duty.
Woodson, R. S., major, ordered, on arrival at San Francisco, to proceed to Fort DuPont, Del., for duty.
Rand, I. W., major, when relieved at Fort DuPont, Del., ordered to Fort Hancock, N. J., for duty.
Roberts, W. M., capt., when relieved at Fort Hancock, N. J., ordered to Fort Thomas, Ky., for duty.
Shillock, Paul, major, granted leave of absence for 10 days.
Porter, R. S., capt., relieved from duty at Fort Huachuca, Ariz., and ordered to Fort Bayard, N. M., for duty at the Army General Hospital.
Reasoner, M. A., lieut., granted leave of absence for one month.
Marrow, C. E., major, granted leave of absence for three months, with permission to apply for an extension of one month, when relieved from duty on the *McClellan*.
Rhoads, T. L., major, relieved from duty in the Philippines Division; will proceed to San Francisco for orders.
Willcox, Chas., major, ordered to duty at Fort Totten N. Y., on return from Cuba.
Patterson, R. U., capt., ordered to duty with Co. C, H. C., at the Army General Hospital, Washington, D. C., on return from Cuba.
Richards, R. L., capt., ordered to duty at Fort Wayne, Mich., on return from Cuba.
Field, P. C., capt., when relieved at Fort Wayne, Mich., ordered to Fort Slocum, N. Y., for duty.
Woodruff, C. E., Shillock, Paul, and Mason, C. F., majors, ordered to report at Washington, D. C., for examination for promotion.
Dean E. A., and Usher, F. M. C., majors, relieved from duty in Philippines Division; will sail June 15 from Manila, P. I., for San Francisco, for orders.
Lord, L. W., M. R. C., relieved from duty at Fort Riley, Kan., April 13, 1909; ordered to his home and relieved from active duty in the M. R. C.
Wren, R. J., M. R. C., honorably discharged March 23, 1909; his services being no longer required.
Kennedy, J. S., M. R. C., when relieved at Fort Omaha, Neb., ordered to Ft. Sam Houston, Texas, for duty.
Parkman, W. E., M. R. C., honorably discharged from the service of the United States, his services being no longer required.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for week ending March 27, 1909:

The following assistant surgeons have been detached from instructions at Naval Medical School, Washington, D. C., and ordered as follows:

Clifton, A. L., to Naval Hospital, Philadelphia.
Brown, E. W., to Naval Medical School, Washington, D. C.
Thomas, G. C., to Naval Recruiting Station, Omaha.
Mann, W. L., to temporary duty on *Independence*, thence to the *Tennessee*.
Cottle, G. F., to Naval Hospital, Annapolis, Md.
Sutton, D. G., to Naval Academy.
Giltner, H. A., to Naval Training Station, San Francisco.
Cuthbertson, R., to Naval Hospital, Mare Island, Cal.
Phelps, J. R., to the *Yankton*.
Sinclair, J. A. B., to Naval Proving Ground, Indian Head, Md.
Moran, C. L., to Navy Yard, Boston.
Turner, H. W. B., to Naval Medical School Hospital for treatment.

The following officers have been detached from places opposite their names and ordered to instruction at Naval Medical School, Washington, D. C., April 15:

Cohn, I. F., asst.-surg., from Naval Hospital, Mare Island.
Reed, E. U., asst.-surg., from Naval Training Station, San Francisco.
Robnett, A. H., asst.-surg., from Recruiting Station, Omaha.

Eytinge, E. O. J., asst.-surg., from Naval Hospital, New York.
Blackwood, N. J., surg., from the *New Jersey*.
Smith, C. G., P. A. surg., from Naval Hospital, Portsmouth.
Grayson, C. T., P. A. surg., from Naval Dispensary, Washington.
Woods, E. L., asst.-surg., from the *Kearsarge*.
Brooks, F. H., asst. surg., from Naval Recruiting Station, Baltimore
Richards, T. W., surgeon, detached from the *Kansas* and ordered to temporary duty in the bureau of medicine and surgery, Navy Department.
Grunwell, A. G., surgeon, detached from the *Kentucky* and ordered to the *Kansas*.
Rennie, W. H., P. A. surgeon, detached from the *Illinois* and ordered to the *Rhode Island*.
Stalnaker, P. R., P. A. surgeon, detached from duty at the Naval Hospital, Annapolis, Md., and ordered to Navy Yard, Washington, D. C.
Kaufman, J. B., asst.-surg., detached from the *Tennessee* and ordered to the Naval Training Station, San Francisco.
Biello, J. A., asst.-surg., detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Maryland*.
Phillips, E. W., acting asst.-surgeon, ordered to duty at the Naval Hospital, New York.
Stuart, A. P. A. surgeon, detached from the *Yankton*, ordered to *New Jersey*.
Jones, E. L., asst.-surgeon, detached from *Maryland*, to duty *Independence*.
De Valin, C. M., surgeon, detached from *Washington*, home to await orders.
Field, J. G., surgeon, detached Naval Training Station, San Francisco, and ordered to the *Washington*.
Richardson, R. R., P. A. surgeon, to duty at Naval Hospital, Portsmouth, N. H.
Stepp, J., P. A. surgeon, ordered to Naval Training Station, Newport, R. I.
Whitmore, G. B., asst.-surgeon, orders of March 17 modified; ordered to Naval Recruiting Station, Baltimore.
Holloway, J. H., P. A. Surgeon, detached from the *Franklin*, to duty on the *Connecticut*.
Pickrell, G., surgeon, ordered to temporary duty in the Bureau of Medicine and Surgery, Navy Department, in connection with the *Solace*.
Old, E. H. H., P. A. surgeon, detached from Naval Training Station, Newport, R. I., to duty at Naval Dispensary, Washington, D. C

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended March 24, 1909:

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from March 22, 1909, on account of sickness.
White, J. H., surgeon, directed to proceed to Gulf Quarantine, Biloxi, Miss., on special temporary duty.
Gardner, Charles H., P. A. surgeon, directed to proceed to Washington, D. C., and report to chairman of board of medical examiners to determine fitness for promotion to the grade of surgeon.
Blue, Rupert, P. A. surgeon, directed to report to chairman of board of medical examiners to determine fitness for promotion to the grade of surgeon.
Oakley, J. H., P. A. surgeon, directed to proceed to San Francisco, and report to chairman of board of medical examiners to determine fitness for promotion to the grade of surgeon.
Sprague, Ezra K., P. A. surgeon, directed to proceed to Washington, D. C., and report to chairman of board of medical examiners to determine fitness for promotion to the grade of surgeon.
Heiser, Victor G., P. A. surgeon, leave of absence, granted Oct. 12, 1908, for 30 days, amended to read 17 days en route to station.
Amesse, J. W., P. A. surgeon, granted 7 days' leave of absence from March 23, 1909.
Boggess, J. S., P. A. surgeon, granted 7 days' leave of absence from March 21, 1909.
Roberts, Norman, P. A. surgeon, granted 3 days' leave of absence from March 18, 1909, under paragraph 191, Service Regulations.
Roberts, Norman, P. A. surgeon, granted 7 days' leave of absence from March 21, 1909.
Collins, G. L., P. A. surgeon, granted 3 days' leave of absence from March 18, 1909, under paragraph 189, Service Regulations.
Wightman, W. M., P. A. surgeon, granted 25 days' leave of absence from Jan. 23, 1909, on account of sickness.
Wollenberg, R. A. C., asst.-surgeon, granted 2 days' leave of absence from Feb. 26, 1909, on account of sickness.
Krulish, Emil, asst.-surgeon, granted 5 days' leave of absence from March 19, 1909.
Stiles, Charles Wardell, chief division of zoology, Hygienic Laboratory, granted 2 days' leave of absence in January, 1909, and 1 day's leave of absence, Feb. 1, 1909, under paragraph 211, Service Regulations.
Porter, J. Y., quarantine inspector, directed to proceed to Mayport, Fla., on special temporary duty.
Frissell, C. M., acting asst.-surgeon, granted 21 days' leave of absence from Feb. 8, 1909.
Reifel, J. W., acting asst.-surgeon, granted 7 days' leave of absence from March 2, 1909, under paragraph 191, Service Regulations.
Tarbell, B. C., acting asst.-surgeon, granted 1 day's leave of absence, March 28, 1909.

BOARDS CONVENED

Board of medical officers convened to meet at the Marine Hospital, San Francisco, April 5, 1909, for the examination of certain passed assistant surgeons to determine their fitness for promotion to the grade of surgeon. Detail for the board: Surgeon H. W. Austin, chairman; Surgeon S. D. Brooks; P. A. Surgeon W. C. Hobdy, recorder. March 20, 1909.

Board of medical officers convened to meet at the bureau, Washington, D. C., April 5, 1909, for the examination of certain passed assistant surgeons to determine their fitness for promotion to the grade of surgeon. Detail for the board: Asst. Surgeon-General W. J. Pettus, chairman; Asst. Surgeon-General J. M. Eager; Asst. Surgeon-General J. W. Kerr, recorder. March 24, 1909.

Boards of medical officers were convened to meet on April 5, 1909, for the purpose of making physical examination of applicants for the position of cadet in the Revenue-Cutter Service, as follows:

Boston: Surgeon L. L. Williams, chairman; P. A. Surgeon T. W. Salmon, recorder.
New York: P. A. Surgeon, C. W. Vogel, chairman; Asst.-Surgeon Lasher Hart, recorder.
Philadelphia: Surgeon J. M. Gassaway, chairman; Acting Asst.-Surgeon H. Horning, recorder.
Baltimore: Surgeon W. P. McIntosh, chairman; P. A. Surgeon M. K. Gwyn, recorder.
Washington, D. C.: Asst. Surgeon-General H. D. Geddings, chairman; P. A. Surgeon J. W. Trask, recorder.
Norfolk, Va.: Surgeon C. P. Wertenbaker, chairman; Acting Asst.-Surgeon R. W. Browne, recorder.
Savannah, Ga.: Surgeon F. W. Mead, chairman; Acting Asst.-Surgeon A. B. Cleborne, recorder.
Mobile, Ala.: Surgeon G. M. Guiteras, chairman; Acting Asst.-Surgeon J. O. Rush, recorder.
New Orleans: Surgeon J. H. White, chairman; P. A. Surgeon H. W. Wickes, recorder.
Galveston, Tex.: P. A. Surgeon G. M. Corput, chairman; Acting Asst.-Surgeon W. H. Gammon, recorder.
Detroit: Surgeon R. M. Woodward, chairman; P. A. Surgeon M. J. White, recorder.
Chicago: Surgeon G. B. Young, chairman; P. A. Surgeon R. H. Creel, recorder.
Seattle, Wash.: P. A. Surgeon M. W. Glover, chairman; Asst.-Surgeon C. W. Chapin, recorder.
San Francisco: P. A. Surgeon W. W King, chairman; P. A. Surgeon J. D. Long, recorder.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 26, 1909:

SMALLPOX—UNITED STATES

Alabama: Montgomery, March 5-12, 1 death.
California: San Francisco, Feb. 27-March 6, 1 case.
Kansas: Topeka, Feb. 27-March 13, 18 cases.
Kentucky: Covington, March 6-13, 2 cases.
Massachusetts: New Bedford, March 6-17, 1 case.
Missouri: Liberty, Jan. 15-March 11, 20 cases.
Montana: Butte, Jan. 2-9, 2 cases; March 2-9, 1 case.
Nebraska: South Omaha, Feb. 20-27, 5 cases.
Tennessee: Memphis, Feb. 27-March 13, 33 cases, 1 death; Nashville, March 6-13, 2 cases.
Texas: El Paso, March 2-9, 2 cases; San Antonio, March 6-13, 2 cases.
Utah: Salt Lake City, Feb. 1-28, 85 cases.
Washington: Camas, Dec. 29-March 8, 18 cases.
Wisconsin: Appleton, March 1-13, 1 case

SMALLPOX—INSULAR

Philippine Islands. Manila, Jan. 16-Feb. 3, 10 cases, 5 deaths.

SMALLPOX—FOREIGN

Africa: Tripoli, Feb. 13-March 6, 11 cases, 3 deaths.
Arabia: Aden, Feb. 1-15, 7 deaths.
Brazil: Bahia, Jan. 16-Feb. 13, 53 cases, 5 deaths; Para, Feb. 13-27, 2 cases, 1 death; Pernambuco, Jan. 1-31, 35 deaths: Rio de Janeiro, Jan. 18-Feb. 14, 121 cases, 82 deaths.
Canada: Halifax, Feb. 26-March, 6 cases; Vancouver, Feb. 1-28, 3 cases; Yarmouth, March 7-20, 28 cases.
China: Hongkong, Jan. 2-23, 3 cases, 2 deaths.
Cuba: Cienfuegos, Feb. 28-March 6, 1 case.
Ecuador: Guamonte, Feb. 15, present.
France: Nice, Jan. 1-31, 1 case; Paris, Feb. 13-20, 3 cases.
Great Britain: Bristol, Feb. 20-27, 1 case, 1 death.
India: Bombay, Feb. 9-16, 14 deaths; Calcutta, Jan. 30-Feb. 6, 202 deaths; Madras, Feb. 6-12, 3 deaths.
Indo-China: Saigon, Jan. 23-30, 2 cases, 1 death.
Italy; Catania, Feb. 21-March 7, 5 cases; Naples, Feb. 21-28, 20 cases, 3 deaths; Palermo, Jan. 20-27, 8 cases, 2 deaths.
Japan: Kobe, Feb. 6-13, 4 cases, 1 death.
Java: Batavia, Jan. 23-Feb. 6, 7 cases.
Mexico: Guadalajara, Feb. 18-25, 2 deaths; Monterey, Feb. 28-March 7, 1 death.
Russia: Odessa, Oct. 31-Feb. 13, 37 cases, 8 deaths; Reval, Jan. 1-31, 1 case; Riga, Feb. 13-20, 1 case; St. Petersburg, Feb. 6-13, 5 cases, 1 death; Warsaw, Jan. 9-16, 6 deaths.

YELLOW FEVER

Barbados: General, Feb. 25-March 5, 2 cases; Bridgetown, 1 case; Spightstown, 1 case.
Brazil: Bahia, Jan. 16-Feb. 13, 51 cases, 16 deaths; Manaos, Jan. 30-Feb. 20, 5 deaths; Para, Feb. 6-27, 11 deaths.
Ecuador: Guayaquil, Jan. 8-Feb. 6, 10 deaths.
Mexico: Merida, vicinity, March 6-13, 1 case, 1 death.

CHOLERA—INSULAR

Philippine Islands: Provinces, Jan. 16-Feb. 6, 361 cases, 214 deaths.

CHOLERA—FOREIGN

China: Hongkong, Dec. 26-Jan. 16, 2 cases, 2 deaths.
India: Bombay, Feb. 9-16, 2 deaths; Calcutta, Jan. 31-Feb. 6, 12 deaths; Madras, Feb. 6-12, 1 death; Rangoon, Jan. 31-Feb. 6, 13 cases.
Russia Jaroslav, March 1, present; St. Petersburg, March 1-5, 50 cases, 19 deaths.

PLAGUE

Brazil: Bahia, Jan. 16-Feb. 13, 22 cases, 13 deaths; Rio de Janeiro, Jan. 17-Feb. 14, 13 cases, 5 deaths.
China: Hongkong, Dec. 26-Jan. 2, 1 case, 1 death.
Chile: Iquique, Feb. 1, 12 cases.
Ecuador: Babahoye, Feb. 15, 3 cases; Guayaquil, Jan. 8-Feb. 6, 17 deaths; Milagro, Jan. 18, 1 case; Nisag, Feb. 15, 7 cases.
India: Bombay, Feb. 9-16, 45 deaths; Calcutta, Jan. 31-Feb. 6, 10 cases; Rangoon, 14 deaths.
Indo-China: Saigon, Jan. 23-30, 2 cases, 2 deaths.
Peru: General, Jan. 29-Feb. 6, 66 cases, 18 deaths; Callao, 4 cases, 2 deaths; Lima, 5 cases, 3 deaths.
Turkey in Asia: Jiddah, Feb. 22-28, 24 cases, 22 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Results of Dr. McCormack's Work in Minnesota

A personal letter from a prominent St. Paul physician contains a program of the Ramsey County Medical Society for March, showing five meetings for the month, all of them devoted to the consideration and study of obstetric questions. The letter says: "Here is the result of his visit. The mid-week meetings for postgraduate work are even more largely attended than the regular society meeting. He has done us much good, more than I thought possible and I want you to know that we appreciate it."

Public Instruction in Pittsburg

The Allegheny County (Pa.) Medical Society has organized a board of public instruction for the county along the lines of the plan followed by the Board of Public Instruction of the American Medical Association. The circular issued by the committee states the object of the board to be to offer instruction to laymen or organizations of laymen on subjects pertaining to hygienic science, prevention of diseases, etc. The board also proposes to issue circulars of information and arrange for public meetings for the discussion of matters pertaining to the public health.

A regular lecture course has been arranged consisting of free public lectures to be held in different sections of the county, in schoolhouses, churches, halls, etc. Lectures for special occasions or on special subjects will be provided on the request of responsible laymen or of responsible lay organizations. Large public meetings are to be held from time to time for the discussion of questions of general interest, in which both medical and lay speakers of prominence will participate. Announcements of all lectures in the regular course are sent to ministers, parish priests and school teachers. Cards announcing the lectures are placed in drug-stores, public buildings, and other conspicuous places. The county has been divided into districts and a subcommittee for each district appointed to have charge of the lectures in the district.

This active, dignified and effective manner of disseminating modern knowledge on diseases and methods of prevention can not fail to accomplish marked results in Pittsburg and the surrounding country. Similar work, differing somewhat in detail, is being done in other large counties and should be taken up not only in cities but in counties having societies large enough to carry on the work. The educational instruction of the intelligent portion of the public in modern sanitation and hygiene is the most important work devolving on the medical profession of to-day.

Legislative Notes

MISSOURI

Three bills now before the Missouri legislature are being supported by the state association. They are amendments to the medical practice act, strengthening it at points where experience has shown the existing law to be weak. The first amendment will give the State Board of Health the power to subpoena witnesses and to require that books and papers are produced. As the law stands, the board, in revoking the license of a physician for misdemeanors, has no power to compel the attendance of witnesses or the production of evidence. The second amendment will authorize the State Board of Health to maintain a suit for injunction against any person whose license has been revoked or who is not a legally qualified physician. It will also authorize the State Board to bring an action in the circuit court of the county in which the individual lives or practices, enjoining him from performing any action in violation of the law. The third amendment will so modify the sections of the existing law as to give the Board of Health jurisdiction over physicians licensed under a previous act, also amending the existing provisions regarding county registration.

NORTH DAKOTA

Report received from North Dakota states that the osteopathic bill, S. B. 131, has passed both the house and senate and will probably be signed by the governor. This bill confers no additional rights on osteopaths, but gives them a separate board of examiners.

WISCONSIN

The antivivisection bill, restricting animal experimentation, which was referred to the Committee on Public Health, has been indefinitely postponed.

County Secretaries' Meeting

Following the lead of Pennsylvania, Ohio, Illinois and a number of other states, the county secretaries of Missouri have formed an organization known as the Missouri Society of Medical Secretaries, which will hold a meeting for conference and mutual helpfulness in connection with the coming meeting of the state association. The program for the meeting appears in a recent number of the *Missouri State Medical Journal*. Papers on the various activities of the county society, including its scientific and social aspects; discussions of the various important duties of the county secretary, of the state journal and its value to the organization, as well as the legal duties of county societies, make up an interesting program.

Some of our larger and more progressive states are realizing that, as the county society is the basis and foundation of modern medical organization and as the county secretary is the executive officer of his society, the best way to insure satisfactory results is by stimulating and aiding the secretary in the performance of his important but often difficult and thankless duties. The movement inaugurated along this line should be taken up by all of the states until annual or semi-annual meetings of all county secretaries have become a recognized part of the society program.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month

General Subject for the Month: Mental Diseases

First Weekly Meeting

GENERAL ETIOLOGY OF INSANITY

SEX.—Forms affecting each sex.

AGE.—Influence of age, puberty, climacteric.

HEREDITY.—Frequency and forms of psychoses in progenitors. Variations in inherited taint. Reversion, latency, hereditary degeneracy.

Stigmata of Degeneration.—1. Anatomic: Facial asymmetry, dental and palatal deformities, anomalies of cranium, tongue and lips, nose, eyes, ears, limbs, genital organs, skin, body in general.

2. Physiologic: Anomalies of motor function, sensory function, speech, genitourinary function, instinct or appetite; retardation of puberty, weakened physiologic resistance.

3. Psychic: Insanity, idiocy, imbecility, feeble-mindedness, pavor nocturnus, precocity, eccentricity, moral delinquency, sexual perversion.

STRAIN.—Importance of strain in conjunction with heredity; physical and mental strain.

Causes of Strain.—1. Physical: (a) Toxic (autointoxication, alcohol, morphin, cocain, etc., metallic poisons). (b) Bodily diseases (syphilis, typhoid, influenza, pneumonia, ma-

laria, etc.; tuberculosis, carcinoma, etc.; cardiovascular disease, disease of genital organs, organic nervous diseases, hysteria and epilepsy). (c) Trauma to head, "commotion insanity." (d) Nervous exhaustion.

2. Physiologic: Puberty, puerperal state, menopause, senility.
3. Moral: (a) Emotional strain; worry, grief, anger, domestic troubles, etc. (b) Imitation; hereditary predisposition usually present.

Influence of profession, occupation, climate, race.

GENERAL SYMPTOMATOLOGY OF INSANITY

DISORDERS OF SENSATION.—1. Qualitative Disorders: (a) Hallucinations, definition, of sight, of hearing, of taste, of smell, of cutaneous sensibility, of movement of body; due to what causes, occur in what psychoses, how influence patient? (b) Illusions, definition, describe varieties. 2. Disorders of Intensity: Hypesthesias, anesthesias, hyperesthesias. 3. Disorders of Sensory Tone: Hypalgesia, hyperalgesia, hyphedonia, hyperhedonia.

DISORDERS OF IDEAS OR MEMORY PICTURES.—1. Defective evolution of ideas, in idiots and imbeciles. 2. Disorders in durability of memory pictures. 3. Affective Disorders: (a) Depression, secondary or primary, in melancholy state; (b) exaltation, (c) irritability, (d) apathy, (e) mutability.

DISORDERS OF IDEA ASSOCIATIONS.—1. Disorders of memory. 2. Disorders of attention. 3. Accelerated or diminished flow of ideas. 4. Incoherence. 5. (a) Delusions; of exaltation or depression, grandeur, persecution, negation, etc. (d) Imperative ideas. 6. Weakness of judgment.

DISORDERS OF ACTIONS.—1. Induced by sensory disorders, hallucinations and illusions. 2. Induced by defects of memory. 3. Induced by disorders of emotions, depression, anger, rage, apathy, etc. 4. Induced by disorders of idea associations.

ACCOMPANYING PHYSICAL DISORDERS IN INSANITY.—1, Motor; 2, sensory; 3, reflex; 4, trophic; 5, secretory and excretory; 6, vascular; 7, temperature disorders.

REFERENCE BOOKS FOR THE NINTH MONTH: Church and Peterson, Nervous and Mental Diseases; Brower and Bannister, Manual of Insanity; Berkley, Mental Diseases; Clarke, Manual of Mental Diseases; Lewis (Bevan), Mental Diseases; Spitzka, Manual of Insanity; Savage and Goodall, Insanity and Allied Disorders; Dana, Nervous Diseases and Psychiatry.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, April 5-6. Sec., Dr. Ancil Martin.

ARKANSAS: Three boards, each at Little Rock, April 13. Regular Sec., Dr. F. T. Murphy, Brinkley; Homeopathic Sec., Dr. P. C. Williams, Texarkana; Eclectic Sec., Dr. A. J. Widener, Little Rock.

CALIFORNIA: San Francisco, April 6. Sec., Dr. Charles L. Tisdale, Butler Bldg.

COLORADO: Denver, April 6. Sec., Dr. S. D. VanMeter, 1723 Tremont St.

DISTRICT OF COLUMBIA: Washington, April 13-16. Sec., Dr. George C. Ober, 210 B St., S. E.

IDAHO: Boise, April 6-7. Sec., Dr. W. F. Howard, Pocatello.

ILLINOIS: Northwestern University Bldg., Chicago, April 15-17. Sec., Dr. J. A. Egan, Springfield.

MINNESOTA: Old Capitol, St. Paul, April 6-9. Sec., Dr. W. S. Fullerton, 214 Am. National Bank Bldg.

MONTANA: The Capitol, Helena, April 6. Sec., Dr. W. C. Riddell.

NEW MEXICO: Santa Fe, April 12. Sec., Dr. J. A. Massie.

NORTH DAKOTA: Grand Forks, April 6-8. Sec., Dr. H. M. Wheeler.

OKLAHOMA: Guthrie, April 13. Sec., Dr. Frank P. Davis, Enid.

UTAH: Salt Lake City, April 5-6. Sec., Dr. R. W. Fisher.

WEST VIRGINIA: Huntington, April 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Minnesota January Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, January 5-8, 1909. The number of subjects examined in was 10; total number of questions asked, 115; percentage required to pass, 75. The total number of candidates examined was 14, of whom 12 passed and 2 failed. Fourteen reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED. College	Year Grad.	Per Cent.
Northwestern University Medical School	(1908)	76.3
Rush Medical College	(1906)	81.4.
Johns Hopkins University Medical School	(1907)	79.
Hamline University	(1908)	75.8
University of Minnesota.	(1906) 82. (1908) 78, 79.	82.
University of Michigan	(1908)	82.
St. Louis University	(1908)	82.
McGill University, Quebec	(1908)	82.
Alexanders University, Helsingfors, Finland	(1902)	75.4

FAILED.		
Louisville and Hospital Medical College	(1908)	64.5
Hamline University	(1907)	63.5

LICENSED THROUGH RECIPROCITY College	Year Grad.	Reciprocity with
Bennett College of Eclectic Medicine and Surgery (1891) Iowa	(1908)	Illinois
Hahnemann Medical College, Chicago (1903) Indiana	(1908)	Illinois
Northwestern University Medical School	(1906)	Illinois
Rush Medical College	(1892)	Wisconsin
University of Iowa	(1905)	Iowa
Louisville Medical College	(1899)	Texas
University of Michigan	(1906)	Michigan
Kansas City Hahnemann Medical College	(1906)	Kansas
New York University Medical College	(1888)	Ohio
University Medical College, Kansas City	(1908)	Missouri
Medical College of Ohio	(1907)	Ohio
Toledo Medical College	(1905)	Illinois

South Dakota January Report

Dr. H. E. McNutt, secretary of the South Dakota Board of Medical Examiners, reports the written examination held at Sioux Falls, January 13-14, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 35, of whom 26 passed and 9 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Rush Medical College, (1901) 76; (1904) 84.1; (1906) 80.3, 85; (1908) 82.6.		
Northwestern University Medical School, (1905) 80.5; (1906) 81.7; 85; (1907) 78.8, 83.4.		
College of Physicians and Surgeons, Chicago, (1903) 77.1; (1905) 90.4; (1907) 76.7.		
Hahnemann Medical College, Chicago	(1908)	77.1
University of Iowa	(1908)	75.9, 80.3, 84.7
University of Iowa, Homeopathic Dept	(1905)	82.1
Keokuk Medical College, College of Phys. and Surg.	(1908)	76.8
Louisville and Hospital Medical College	(1908)	80.6
University of Minnesota, (1905) 79.4; (1906) 77.2, 83; (1907) 76.2		
Creighton Medical College	(1908)	75.6, 80.8

FAILED		
Howard University	(1893)	59.
Rush Medical College	(1907)	71.5
Northwestern University Medical School	(1908)	73.
College of Physicians and Surgeons, Chicago	(1908)	50.
Keokuk Medical College, College of Phys. and Surg.	(1908)	70.1
Sioux City College of Medicine	(1906)	58.8
University of Michigan	(1900)	74.
St. Louis Medical College	(1887)	73.
St. Louis College of Physicians and Surgeons	(1906)	60.

Utah January Report

Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, January 4-5, 1909. The number of subjects examined in was 20; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 11, of whom 9 passed and 2 failed. Five reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1907)	76.7
Northwestern University Medical School, (1904) 78.4; (1908) 79.1, 85.4.		
Rush Medical College	(1908)	81.2, 82.2, 86.9
Jefferson Medical College	(1908)	79.4, 88.4

FAILED		
University of Louisville	(1907)	64.7
Northwestern University Medical School	(1908)	73.

LICENSED THROUGH RECIPROCITY College	Year Grad.	Reciprocity with
Denver and Gross College of Medicine	(1904)	Colorado
Rush Medical College	(1899)	Maine
University of Iowa	(1908)	Iowa
Omaha Medical College	(1902)	Colorado
Western Reserve University	(1888)	Iowa

Vermont January Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written and oral examination held at Montpelier, January 12-14, 1909. The number of subjects examined in was 12; total number of questions asked, 95; percentage required to pass, 75. The total number of candidates examined was 12, of whom 10 passed and 2 failed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Maryland Medical College	(1906)	86.6
Harvard Medical School	(1907)	81.9
College of Physicians and Surgeons, Boston	(1904)	81.6
Jefferson Medical College	(1907)	86.5
Hahnemann Medical College, Philadelphia	(1871)	75.
University of the South	(1901)	88.1
University of Vermont, (1880) 75; (1902) 75; (1908) 75, 85.1		
FAILED		
College of Physicians and Surgeons, Boston	(1899)	71.4
Laval University, Quebec	(1905)	70.1

LICENSED THROUGH RECIPROCITY		
College	Year Grad.	Reciprocity with
Tufts College Medical School	(1907)	New Hamp.

Wisconsin January Report

Dr. J. V. Stevens, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Milwaukee, Jan. 12-14, 1909. The number of subjects examined in was 22; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17, of whom 12 passed, 1 failed and 4 were conditioned. Twenty reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Hahnemann Medical College, Chicago	(1908)	81.2
Northwestern University Medical School	(1908)	88.5
Johns Hopkins University Medical School, (1902) 86.1; (1907) 88.6; (1908) 82.7, 91.		
New York University Medical College	(1886)	91.4
Milwaukee Medical College	(1908)	78.6, 82.5, 95.6
Wisconsin College of Physicians and Surgeons	(1907)	81.2
Royal Frederiks University, Christiania, Norway	(1900)	82.
FAILED		
Milwaukee Medical College	(1908)	62.4
CONDITIONED		
Milwaukee Medical College	(3, 1908)	
Western University, London, Ontario	(1907)	

LICENSED THROUGH RECIPROCITY		
College	Year Grad.	Reciprocity with
Northwestern University Medical School, (1907) (1908)	(3, 1906)	Illinois
Rush Medical College	(1900) (2, 1906) (1907)	Illinois
College of Physicians and Surgeons, Chicago	(1907)	Illinosi
Chicago College of Medicine and Surgery	(1904) (1908)	Illinois
Bennett Coll. of Eclectic Medicine and Surgery	(1908)	Illinois
Kentucky School of Medicine	(1898)	Kentucky
Harvard Medical School	(1895)	New Jersey
University of Michigan	(1906)	Michigan
Hamline University	(1899)	Minnesota
Universtiy of Minnesota	(1904)	Minnesota
Ohio Medical University	(1906)	Ohio
Milwaukee Medical College	(1907)	N. Dakota

North Dakota January Report

Dr. H. M. Wheeler, secretary of the North Dakota State Medical Examining Board, reports the written examination held at Grand Forks, January 5-7, 1909. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 10, of whom 7 passed and 3 failed. Five reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
University of Iowa	(1905) 79; (1908)	82.
University of Michigan	(1906)	88.
University of Minnesota	(1903)	81.
Bellevue Hospital Medical College	(1887)	76.
University of Toronto, Canada	(1880)	75.
Laval University, Quebec	(1905)	76.
FAILED		
Hamline University	(1904)* (1907)*	
American Medical College, St. Louis	(1897)*	

LICENSED THROUGH RECIPROCITY		
College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1907)	Illinois
College of Physicans and Surgeons, Chicago	(1905)	Illinois
Detroit College of Medicine	(1907)	Michigan
University of Minnesota	(1907)	Minnesota
University of Toronto, Canada	(1907)	Minnesota

* Percentage not given.

Marriages

G. C. BLACK, M.D., Table Grove, Ill., to Miss Blanche Harris of St. Louis, March 16.

CHARLES F. STERNE, M.D., U. S. Navy, to Miss Irene Orndorff, of Washington, D. C., March 25.

JOHN MAULFAIR KEICHLINE, M.D., to Miss Martha Jane Thompson, both of Petersburg, Pa., March 24.

HARRY A. GILTNER, M.D., U. S. Navy, to Miss Virginia Bartlett Sullivan, of Washington, D. C., March 24.

J. THOMAS WRIGHT, M.D., to Mrs. Lillian Frontis, both of Winston-Salem, N. C., at Gastonia, N. C., February 26.

JOHN KYLE GORDON, M.D., Chambersburg, Pa., to Miss Eleanor Wharton Wood of Bryn Mawr, Pa., March 20.

Deaths

William N. Burwell, M.D. Jefferson Medical College, Philadelphia, 1881; a member and councilor of the West Virginia State Medical Association; and a member of the Ohio Valley and Little Kanawha Medical Society; chairman of the health committee of the Parkersburg, W. Va., city council; at one time health officer of the city; for several terms a member of the Wood County Board of Health, and during the last term its president; died at his home in Parkersburg, March 23, from influenza, aged 50.

William Adams Olmstead, M.D. Howard University, Washington, D. C., 1883; a veteran of the Civil War, in which he attained the rank of brigadier general; for several years thereafter a disbursing officer in one of the bureaus of the War Department, Washington; later physician at Indian agencies in Colorado and Wyoming; who took holy orders in 1897, and afterward acted as chaplain at St. Elizabeth's Hospital, New York City; died March 9, from paralysis, aged 74.

William Ray, M.D. Missouri Medical College, St. Louis, 1868; formerly a member of the American Medical and Minnesota State medical associations; a surgeon in the Confederate service during the Civil War; surgeon to the Hope Mining Company; and chairman of the Board of Health of Philipsburg, Mont.; was thrown from his carriage in a collision with a railway crossing gate at Flint Station, March 17, and died a day later from his injuries, aged 66.

Alonzo Andrews, M.D. Jefferson Medical College, Philadelphia, 1894; of Martinsburg, W. Va.; a member of the American Medical Association; and formerly treasurer of the West Virginia State Medical Association; a member of the State Examining Board for Nurses, and surgeon in the West Virginia National Guard with the rank of major; died at a sanatorium in Asheville, N. C., March 19, from tubercular meningitis, aged 37.

Matthew Addison Taylor, M.D. Starling Medical College, Columbus, Ohio, 1849; a member of the State Medical Association of Texas and of the board of regents of the University of Texas; formerly physician in charge of the State School for the Blind; vice-president of the Austin and Northwestern Railroad; and president of the First National Bank of Austin; died at his home in that city, March 18, from heart disease, aged 82.

Wilbert Eugene Harriman, M.D. Jefferson Medical College, Philadelphia, 1895; professor of ophthalmology in the veterinary section and lecturer on pollution of waters in the sanitary engineering section of the Iowa State College, Ames, and physician to the institution; a member of the American Medical Association; died at the home of his father in Hampton, Iowa, from nephritis, March 17, aged 36.

Joseph Rutter Owens, M.D. University of Maryland, Baltimore, 1859; chief clerk of the claims division of the Treasury Department, Washington, from 1885 to 1890, and after that time treasurer of the Maryland Agricultural College, Hyattsville; for several years collector of taxes for Anne Arundel county; councilor and for three terms mayor of Hyattsville; died at his home, March 15, aged 70.

Ira Augustus Shimer, M.D. University of Pennsylvania, Philadelphia, 1897; a member of the American Medical Association; who entered the Army as lieutenant and assistant surgeon in 1898; was promoted to captain in the medical corps in 1903, and to major in 1908; died in Camp Overton, Mindanao, P. I., March 13, from acute septicemia, aged 38.

George Randolph Patton, M.D. Miami Medical College, Cincinnati, 1855; M.D. ad eundem, Medical College of Ohio, Cincinnati, 1858; for many years a member of the Wabasha county (Minn.) Medical Society; a prominent and esteemed practitioner of Minnesota; died at his home in Lake City, March 23, aged 74.

George A. Biddle, M.D. Bellevue Hospital Medical College, New York City, 1870; of Emporia, Kan.; a member of the Kansas Medical Society; and a member of the local board of U. S. Pension Examiners; a veteran of the Civil War; died in the Topeka State Hospital, March 13, from disease of the kidney, aged 63.

Roger Atkinson, M.D. Charity Hospital Medical College, New Orleans, 1876; once president of the Hays County (Texas) Medical Society; and for many years local surgeon for the Missouri, Kansas and Texas Railroad at San Marcos; died suddenly from heart disease at his home, March 16, aged 59.

William L. Pinkerton, M.D. Starling Medical College, Columbus, Ohio, 1871; a member of the American Medical Association and Columbus Academy of Medicine, and once president of the Central Ohio Medical Society; died at his home in Galloway, Ohio, Dec. 6, 1908, from capillary bronchitis, aged 68.

Frank J. Latshaw, M.D. Toledo (Ohio) Medical College, 1902; a member of the Ohio State Medical Association; a member of the staff of the Toledo State Hospital, and in charge of the tubercular colony of that institution; died from tuberculosis at a sanatorium in Monrovia, Cal., March 11, aged 31.

Charles Dean Hews, M.D. University of Michigan, Ann Arbor, 1870; surgeon to the Calumet Street Railway Company; a veteran of the Civil War; died at his home in Kensington, Chicago, March 24, from the effect of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, aged 62.

Cyril Fulton, M.D. Queen's University, Kingston, Ont., 1894; a member of the American Medical Association and a fellow of the Rochester (N. Y.) Academy of Medicine; local surgeon for the New York Central Railroad at Lyons; died in his apartments in that city, March 22, from pneumonia, aged 40.

Henry P. Dietrick, M.D. Medico-Chirurgical College of Philadelphia, 1903; a member of the Medical Society of the State of Pennsylvania and surgeon to the American Steel and Wire Company of Williamsburg, Pa.; died at a hospital in Philadelphia, February 5, from rheumatic endocarditis, aged 29.

Tappane Eustis Francis, M.D. Harvard Medical School, Boston, 1847; a member of the Massachusetts Medical Society; for fifty-five years a practitioner of Brookline; for several years a member of the local school committee, and a trustee of the public library; died at his home March 20, aged 85.

John Orlando White, M.D. University of Pennsylvania, Philadelphia, 1868; president of the Camden County (N. J.) Medical Society in 1870; and for several years visiting physician to the Camden City Dispensary; died suddenly at his home in Camden, March 23, from angina pectoris, aged 61.

Edwin G. Burlingame, M.D. Kentucky School of Medicine, Louisville, 1895; a member of the Indiana State Medical Association; contract surgeon U. S. Army during the Spanish-American War; died suddenly at his home in Oakland City, March 20, from acute nephritis, aged 41.

Albert J. Best, M.D. College of Physicians and Surgeons, Keokuk, 1876; Missouri Medical College, St. Louis, 1880; a member of the Kansas Medical Society; died at his home in Centralia, Kan., March 12, from erosion of the stomach, complicated by mastoid abscess, aged 61.

George Lorimer Baker, M.D. Harvard Medical School, Boston, 1902; of Dorchester, Boston; instructor in bacteriology at Harvard Medical School and engaged in tuberculosis research work; died at the East Bridgewater Sanatorium, March 19, from tuberculosis, aged 35.

Alfred Corbett Smith, M.D. Harvard Medical School, Boston, 1864; University of the Victoria College, Coburg, Ont., 1884; since 1865 at the head of the medical department of the government retreat for lepers, Tracadie, N. B.; died in Bathurst, N. B., March 12, aged 68.

Jerome Oliver Everett, M.D. Northwestern University, Chicago, 1881; a member of the Nebraska State Medical Association; secretary and treasurer of the Lincoln (Neb.) Sanitarium; died at his home in Lincoln, March 14, from valvular heart disease, aged 59.

Asa Peaslee Tenney, M.D. Harvard Medical College, Boston, 1859; for several years superintendent of the Osawatomie and Topeka state hospitals; local surgeon for the Missouri Pacific Railroad; died at his home in Kansas City, Kan., March 20, from pneumonia, aged 75.

Bradley Selleck McCabe, M.D. Albany (N. Y.) Medical College, 1850; a member of the New York state legislature in 1883; and a supervisor of Greene county for four terms; twice serving as chairman of the board; died March 16, at his home in Greenville, aged 84.

Thomas Sterling Barclay, M.D. Faculty of Physicians and Surgeons of Glasgow, Scotland, 1865; University of the Victoria College, Coburg, Ont., 1872; a member of the American Medical Association; died at his home in Detroit, March 14, from dropsy, aged 67.

Wilford L. Baker, M.D. University Medical College, Kansas City, 1903; a member of the American Medical Association; died at his home in Salisbury, Mo., January 9, from influenza, complicated with acute parenchymatous tonsillitis, aged 34.

John H. Davidson, M.D. Western Reserve University, Cleveland, 1870; a member of the Medical Society of the State of Pennsylvania; vice-president of the First National Bank of Perryopolis; died at his home in that city, March 18, aged 63.

Theodore Longshore Willetts, M.D. Jefferson Medical College, Philadelphia, 1874; a member of the American Medical Association and Harrisburg Academy of Medicine, and for 34 years a practitioner of Harrisburg; died March 25, aged 75.

Theodore Orson Gates, M.D. University of Wooster, Cleveland, 1867; for more than 30 years a practitioner of East Tawas, Mich.; died at his home in that place, February 15, from pyemia, following necrosis of the fibula, aged 65.

Abraham Forest, M.D. University of Louisville (Ky.), 1879, and Yandell medalist of his year; formerly physician for the western district of Louisville; died in his room in Pittsburg, March 17, from tuberculosis of the lungs, aged 52.

William Hyser, M.D. University of Buffalo (N. Y.) 1850; a veteran of the Civil War; a member of the Michigan State Medical Society and a pioneer practitioner of Kent county; died at his home in Plainfield, March 20, aged 82.

Albert Clark Winn, M.D. University of Missouri, Columbia, 1882; Bellevue Hospital Medical College, New York City, 1883; a member of the Medical Society of the State of California; died at his home in Tomales, March 13.

Solon Wilder Peters, M.D. Tufts College, Boston, 1906; of Colorado Springs, Colo.; a member of the American Medical Association; died at the home of his parents in Boston, from tuberculosis, March 17, aged 26.

William H. Hooper, M.D. Starling Medical College, Columbus, 1888; of Waverly, Ohio; a veteran of the Civil War; died at the home of his daughter in Bainbridge, Ohio, March 11, from heart disease, aged 69.

Adoniram Judson Dalby, for a short time a practitioner of North Carolina in the late sixties, and a Confederate veteran; died at his home in Oxford, N. C., in December, 1908, from cerebral hemorrhage, aged 66.

Thomas J. Beatty, M.D. Jefferson Medical College, Philadelphia, 1880; assistant chief medical inspector and chief diagnostician of the bureau of health of Philadelphia; died at his home in that city, March 22, from nephritis, aged 51.

Albert Reichard, M.D. Eclectic Medical Institute, Cincinnati, 1881; a member of the local board of U. S. Pension Examining Surgeons; died at his home in Paola, Kan., March 16, from heart disease, aged 57.

Marion Hudson Marmaduke (license, Mo., 1883); an eclectic practitioner of Vernon county, Mo., and a Confederate veteran; died at his home in Nevada, Sept. 1, 1908, from pneumonia, aged 73.

Freeman Evans Small, M.D. Medical School of Maine, Brunswick, 1879; of Portland; a member of the staff of the Maine General Hospital in that city, died in that institution, March 19, aged 54.

Adelbert Edmond Pettingill, M.D. Eclectic Medical Institute, Cincinnati, 1878; formerly treasurer of Superior, Wis.; died at his home in Gentry, Ark., February 27, from pneumonia, aged 67.

James Daniel Erwin, M.D. Medical College of the State of South Carolina, Charleston, 1850; a clergyman of the Christian church; died at his home in Erwinton, S. C., March 17, aged 80.

E. C. Cochran, M.D. Jefferson Medical College, Philadelphia, 1860; surgeon in the Confederate Service throughout the Civil War; died at his home in Tunnel Hill, Ga., February 24, aged 84.

George Justice Ewing, M. D. University of Pennsylvania, Philadelphia, 1901; formerly of North Wales, Pa.; died from tuberculosis at his home in Lunenburg, Mass., March 18, aged 33.

B. B. Andrews, M.D. University of Nashville, Tenn., 1859; a Confederate veteran; and for several years mayor of Russellville, Ky.; died suddenly March 16, at his home, from acute gastritis.

Henry Hale Pease, M.D. Syracuse (N. Y.) University, 1886; a practitioner of Syracuse and of Tucson, Ariz.; died in St. Joseph's Hospital, Syracuse, March 15, from paralysis, aged 48.

Fred Peaslee Taft, M.D. New York Homeopathic Medical College, New York City, 1892; died at his home in Longmont, Colo., from tuberculosis of the intestines, March 6, aged 37.

Simeon Orison Pilling, M.D. Boston (Mass.) University, 1891; for twelve years a practitioner of Newburyport, Mass.; died at his home in Hartford, Conn., March 17, aged 44.

J. Walton Pennock, M.D. Hahnemann Medical College, Chicago, 1880; a veteran of the Civil War; died at his home in Gladstone, Mich., March 12, from paralysis, aged 69.

Denison DeL. Carder, M.D. Philadelphia University of Medicine and Surgery, 1868; died at his home in Blyth, Ont., February 18, from fatty degeneration of the heart.

Morris J. Hawkins (license, Ohio, 1896); for 43 years a practitioner of Brunswick; died at his home in that place, from cancer of the stomach, March 11, aged 74.

Henry De Lacey Sherwood, M.D. College of Physicians and Surgeons, New York City, 1882; died at his home in Jersey City, N. J., March 16, from nephritis, aged 48.

Francis Wroatte Marshall, M.D. Tulane University, New Orleans, 1849; of New Orleans; died at the home of his daughter in Alexandria, La., Nov. 7, 1908, aged 81.

Samuel Taylor Emmons, for more than sixty years a practitioner of Indiana; died at the home of his son near Decker, Aug. 13, 1908, from heart disease, aged 87.

William F. Stouder, M.D. Physio-Medical College of Indiana, Indianapolis, 1889; died at his home in Newton, Iowa, Nov. 9, 1908, from heart disease, aged 58.

Thomas Dunbar, M.D. Jefferson Medical College, Philadelphia, 1888; formerly state quarantine physician; died at his home in Philadelphia, March 18, aged 50.

Amos York, M.D. Electic Medical Institute, Cincinnati, 1878; a veteran of the Civil War; died at his home in Strasburg, Ill., from lung disease, March 12.

William B. Hollis, M.D. Winchester (Va.) Medical College, 1853; of Cross Junction, Va.; died at the home of his sister in Strasburg, Va., March 20, aged 74.

James Barton Harvey, M.D. Penn Medical University, Philadelphia, 1867; died at his home in Atkinson, N. H. January 12, from heart disease, aged 64.

George Wilson Bell, M.D. College of Physicians and Surgeons, New York City, 1869; died at his home in Kingston Station, N. S., recently, aged 66.

Daniel T. Starkey, M.D. Hahnemann Medical College, Philadelphia, 1863; died at his home in Newtonville, Mass., March 3, from arteriosclerosis, aged 83.

Oscar North Tindall, M.D. University of Michigan, Ann Arbor, 1869; a veteran of the Civil War; died at his home in Toledo, March 22, aged 66.

Mortimer Lucas Dixon, M.D. Queens University, Kingston, Ont., 1886; died at his home in Frankville, Ont., March 17, from peritonitis, aged 45.

James Harvey Brown, M.D. University of Louisville (Ky.) 1856; died at his home in Bardstown, Ky., Sept. 2, 1908, from diabetes, aged 76.

James Aylen, M.D. McGill University, Montreal, 1863; died at his home in Aylmer, Que., from epithelioma of the throat, March 6, aged 70.

Charles Langdon Kingsbury, M.D. New York Homeopathic Medical College, 1874; of Boston; died in San Diego, Cal., March 14.

David S. Byers (license, Iowa, 1886); of New Hampton, Iowa; died in the Independence State Hospital, March 17, aged 76.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE 8-11.

Alabama, Medical Assn. of State of, Birmingham, April 20-23.
Amer. Assn. Pathologists and Bacteriologists, Boston, April 9-10.
California, Medical Soc. of State of, San Jose, April 20.
Florida Medical Association, Pensacola, April 7-9.
Georgia, Medical Association of, Macon, April 21.
Mississippi State Medical Association, Jackson, April 13.
South Carolina Medical Association, Summerville, April 21.
Tennessee State Medical Association, Nashville, April 13-15.
Tropical Medicine, American Society of, Washington, April 10.

AMERICAN ACADEMY OF MEDICINE

Second Mid-Year Meeting, Held in Chicago, March 25, 1909

DR. CHARLES S. SHELDON, Madison, Wis., First Vice-President, in the Chair

Entrance Requirements and the Didactic and Laboratory Portions of the Medical Course

DR. N. P. COLWELL, secretary of the Council on Medical Education of the American Medical Association, Chicago: Fourteen medical colleges are requiring the equivalent of one or more years in a college of liberal arts. Thirty-eight other colleges have voted to require additional work for admission by 1910, and the large majority of them mean what they say. Many have already outlined in their announcements the proposed courses of preliminary college work. The growing demand for better trained medical students is most encouraging, and all organizations interested in these higher standards should work hand in hand to help the movement along. The majority of the schools have specified that certain subjects must be included in the one or more years of college work. The subjects specifically mentioned were physics, chemistry, biology and modern languages. All are agreed regarding the requirement of physics, chemistry and biology (botany or zoology); six require French or German, while five require both; three specify Latin as a requirement, one specifies English, one trigonometry, and one recommends psychology. From each of the colleges named a complete statement has been received showing the hours of didactic and laboratory work devoted to each of the fundamental medical branches. This report has included only the fourteen medical colleges of the United States which actually required one or more years of liberal arts college work for admission last year, in addition to a four-year high school education. It is interesting to note that the list numbered only 6 in 1906, 3 being added in 1907, and 5 being added in 1908. In the future, the increase is to be even more rapid. Next year will see an increase of at least 5, these including medical departments of Yale, Kansas, Pennsylvania, Michigan and St. Louis universities. The year following will see the list increased by at least 20 or 25 colleges.

There is one danger connected with the advance in requirements, and that is, that the inferior colleges will benefit by this effort and continue to turn out even larger numbers of ill-prepared physicians. This behooves the various organizations interested in the advance movement to do all they can to support the better class of schools. It is encouraging to note that state examining boards are beginning to do their part in this support of the high standard schools. As has been shown in previous reports of the Council on Medical Education, six state boards are requiring one or two years of preliminary college education in addition to the four-year high school course. These are Minnesota and North Dakota, each two years, and Connecticut, South Dakota, Colorado and Kansas, each one year. It is to be hoped that other state examining boards will take a similar stand and thus support this movement for higher standards which means so much to the future medical education in this country.

Can the Third and Fourth Years of the Literary College Give Any of the Medical Course?

DR. WALTER MCNAB MILLER, Columbia, Mo.: The tendency is to lengthen the course in medicine, or what amounts to the same, to increase the requirements for admission.

When one considers the average age at which the physician dies and the long interval required for the establishment of a practice, there remains but little time for productive, remunerative work. To extend this course another year would certainly require more time and expense than the remuneration of country practice and the conditions of life prevailing there would justify or could reward. Such lengthening and intensification of the course in medicine would carry a good thing too far, and the question arises: How is this difficulty to be avoided without sacrifice to professional training, to the productiveness of the individual, or to the welfare of the sparsely settled rural communities or overcrowded quarters of the cities? Close our eyes to these facts as we may, it is from these populous districts that the average physician who constitutes the rank and file of the profession will draw his patronage. To the last question, does not the custom prevailing in Great Britain and her colonies suggest an answer?

Let the technical course which follows that of the fourth year premedical course be extended from two years to four years, making the total course equivalent to an eight-year combined course. On completion of the first two years of this combined course let the degree of M.B. be conferred, and with it the privilege of practicing after passing the examination set by a state or national board of examiners. Let the degree of M.D. be conferred on completion of the last two of the four years of technical instruction and let go with that the privilege of practicing a specialty or of becoming an independent teacher of the sciences that are fundamental to medicine, or are applied in the art of its practice. The consideration of this plan by members of the academy would doubtless lead to fruitful results.

Taking the various restrictions and suggestions into consideration, I believe that not only can the third and fourth years of the college give some subjects of the medical course, but they can give all the subjects that pertain fundamentally to medicine.

Medical Elective Work in the Literary College

DR. JOHN L. HEFFRON, Syracuse, N. Y.: In examining the replies to a circular letter which I sent to representatives of colleges and by referring to the courses as outlined in the various catalogues, I am impressed with the fact that the courses do not fully correspond with those carried out in medical colleges. More attention is paid to cytology and to the histology of tissues and considerably less to the microscopic anatomy of organs. In embryology, much more attention is given to technic and to laboratory work with the lower forms of life, and less to mammalian development and fetal membranes. However, the difference is so slight that it would be easy to modify these courses to correspond with the needs of the medical student. In the main, it is evident that the work in the better colleges in histology and embryology is as good as in the better schools of medicine, but that gross anatomy is not adequate to the demands of a college of medicine and can not be without human dissection. Students of colleges who give the work of the first year of the medical course in full should be made eligible to enter the second year of the course in a college of medicine. But this provision should be safeguarded by regulations that would insure the accomplishment of that year's work under conditions of equipment in teachers and laboratories fully equal to those in colleges of medicine. The proper place for teaching all medical branches is the well-organized medical college with the hospital. The best teachers of it are men who have had medical training; the best learners are those definitely consecrated to their lifework as medical students. This subject can not be better summarized than in the conclusions of the Council on Medical Education of the American Medical Association as follows:

1. The first two years of the medical course should be taught with the same degree of thoroughness as they are being taught in our best class of medical schools to-day. This is the chief consideration.
2. If universities have sufficient endowment to provide the laboratories, the extensive and special laboratory equipment, and the five or more salaried expert instructors in the laboratory branches, these instructors to be largely, if not entirely, men who have had a complete medical training, then, and then only, should they undertake to teach the branches included in the first two years of the medical course.
3. If the university has the funds necessary to provide for the work in the manner outlined above, then it should secure a special charter or some other legal authority to teach medicine, since several states persistently refuse to recognize any work toward the M.D. degree which has not been taught in a legally chartered medical school.
4. If the university has thus provided for the subjects of the first two years in medicine, and has arranged to teach them with the same high degree of excellence as is done in our high grade university medical schools, then the university would be fully justified in allowing the first two medical courses to be elected as the last two courses for the B.S. degree, if it chose to do so.
5. Such action would not lower the value of the baccalaureate degree, but would be an acknowledgment of the thoroughly scientific character of the subjects included in the first two years of the medical course, which formerly were not sufficiently developed nor taught with sufficient thoroughness to warrant their being thus accepted.

To these views as to the conditions under which the scientific work of the first and second years of the medical course must be given, I give full and unhesitating approval. But I believe it is the function of the fully developed college to give its students an opportunity to pursue every branch of human knowledge.

Discussion on Preliminary Education

DR. WINFIELD S. HALL, Chicago: I thoroughly agree with Dr. Miller that it would be desirable for the development of medical education in America to continue along the lines already blocked out by the various forces that are stimulating medical education until we finally come to the ideal set forth by him. I believe, however, that it will be a long time before we reach that ideal. I also agree that literary colleges should not attempt to give the first two years in medicine until they are properly and fully equipped and able to man the various laboratories required to give these courses in the first two years. All the colleges with which I am acquainted have introduced in the last two decades well-equipped laboratories for teaching chemistry, biology and physics. The medical school should require of a man who presents himself for admission evidence of having devoted one year to college chemistry, one year to college physics, and one year to college biology. He should also have a reading knowledge of German and French. In the second class, he should have organic chemistry, physiologic chemistry. In the biologic department of these institutions a moderate addition to the requirements or equipment would enable them to give histology, embryology, mammalian anatomy and human osteology in an acceptable way. Such a course should cover physiology of muscles and nerve tissue. The special physiology of nutrition, including the physiology of digestion, metabolism, and animal heat, respiration and circulation, physiology of the central nervous system, etc., are given in the second year in the medical course. These can be taught in a literary college with a moderate addition to its equipment in materials and men. Strictly medical subjects, as human anatomy, special physiology, bacteriology, pharmacology, pathology, principles of hygiene and sanitary science, can only be given in an institution having elaborate and extensive equipment in both laboratories and men. Such courses should only be given by medical men, and I do not see how literary and scientific colleges can feel justified in extending their courses to cover those branches. I can see how the larger universities can easily take the step that Wisconsin or the University of Chicago has taken. It is a legitimate, natural and logical growth, but whether Wisconsin will eventually affiliate with the clinical school is a problem for the future.

PROF. JOHN H. T. MAIN, Grinnell, Iowa: If a literary college gives a good course in histology or embryology, and does it in a way to meet the requirements of the case, there is no reason why it should not receive credit in any medical college for that work. But much depends on the character of the institution, on the teachers and their training, and on the laboratory equipment. I believe, however, that a first-class literary college can teach any of the pure sciences required in medicine.

PROF. H. B. DENSMORE, Beloit, Wis.: The general policy of Beloit with reference to medical education is about what it is

with regard to all special branches of professional work, namely, we feel that our college subserves its best function in giving what is usually called a general education which furnishes a good foundation for all professions.

MR. C. A. BLANCHARD, President of Wheaton College: Twenty-five years ago about the only thing we heard in educational conventions was the necessity of increasing the requirements for admission to college. We were told they were shamefully low and ought to be raised. They were pushed up from two years to three years, and then four years. Now, in the Philadelphia Central High School there are six years of study. I speak of this six years' course to show the general trend of matters pertaining to education. Our preparatory courses have been considered too short and must be made longer. The courses in medicine, in law, in theology, have been lengthened, and now the proposition is to exact greater preliminary preparation and requirements for entrance to medical colleges, and I hope you will all exert your efforts to bring this about, for we know the preliminary requirements of men entering the legal and medical professions in the past were not what we expect them to be to-day. The standard, therefore, should be raised.

DR. JOHN M. DODSON, Chicago: Only five years ago the proposition was made to make a partial increase in the preliminary requirements and require two years of college work. What has been the result? Dr. Colwell, Secretary of the Council on Medical Education, states that thirty medical schools have announced their intention of requiring in the immediate future two years of college work, and that thirty more will require at least one year of college work for admission to medical colleges. This means that this is going to be universal in the United States within the next decade.

PROF. W. F. MERCER, Ohio: Not a single student of mine who enters a medical college has to take embryology or histology over. If we do our work satisfactorily in teaching these branches, we like to have it recognized by medical colleges. According to the laws of Ohio, a man must spend four years in a medical college, no matter how much he knows, before he can begin to practice. That is absurd, but it is the legal side of the matter; it is not the matter of how much one knows. I think we are getting away from that.

PROF. ARTHUR W. MEYER, California: No one can question the value of a baccalaureate degree, yet at the same time I heartily sympathize with those who claim that we can not require this degree as an entrance requirement to medical schools. Most college graduates who enter on the medical course do not, after graduating from medical schools, practice medicine in the country. They stay in the big cities and there is great need on the part of the medical profession for a class of men well-trained to practice medicine in the country. I think the position taken by Professor Main is correct. I believe courses in general pathology and kindred subjects can be given just as well by a literary college or university as by the medical school, provided the former meets the requirements and has the proper equipment.

(To be continued)

NEW YORK ACADEMY OF MEDICINE

SECTION ON ORTHOPEDIC SURGERY

Regular Meeting, held March 18, 1909

The President, DR. JOHN A. WYETH, in the Chair

SYMPOSIUM, WHAT SHALL WE DO WITH OUR CRIPPLES?

Widener Memorial Industrial School for Crippled Children, Philadelphia

DR. DE FOREST WILLARD, Philadelphia, surgeon-in-chief of the Widener Memorial Industrial School: I am glad that the New York Academy of Medicine has taken up this question. Rosenfeld estimates that one-sixth of the inhabitants of Germany are more or less crippled, and that the economic gain to the empire if this great company could be made self-sustaining, would be $30,000,000 annually. Instead of this, each is an actual cost to the State or to his friends of several hundred dollars yearly. It would be of great advantage if this society could induce the Commissioner of Census next year (1910), to secure statistics as to the number of cripples in this country. About forty years ago I became deeply interested in the problem of assisting crippled and deformed children; at that time Sayre was making his stubborn fight for recognition of the fact that these cases were not hopeless. I determined, if possible: 1. To secure a hospital where these children could either be cured or greatly benefited by surgical, mechanical and hygienic measures. 2. To secure a fund for the supplying of these poor patients with the braces and apparatus, which were so essential to their locomotion. 3. To educate and train each crippled child along lines best suited to its physical deformities, its mental condition and its power for self-support. 4. To endeavor to educate medical students in the diagnosis and treatment of these cases and to open the eyes of surgeons to the fact that while they were helpless, they were not hopeless; that it was a sin and a crime to pass carelessly over these afflicted and handicapped individuals with the condition undiagnosed and the case dismissed, simply because time, care and patience were required for their relief. The hospital has been secured, and a sum has been raised for supplying patients with apparatus. About ten years ago I presented to Mr. P. A. B. Widener, a millionaire philanthropist of Philadelphia, the needs of this class, and showed him a field largely unoccupied by any institution. As a result, there stands to-day in Philadelphia, a school for the mental education and manual training of these cripples, admitting only children under 10 years of age. Mr. Widener has purchased thirty acres of ground in the outskirts of the city and within easy reach from the center. He has already spent $1,000,000, and has endowed the institution with $3,000,000.

The institution is to be devoted to crippled and deformed minors, without distinction as to creed, nationality or sex; to supplement the work of hospitals; to strengthen and renew the weak ones, and then to educate them into habits of industry, order, cleanliness, self-respect and self-reliance; to apply such mental, moral and religious training as shall render them true, honorable, useful and self-sustaining members of the community. Feeble-minded children are not eligible; the children must be permanent cripples, but improvable. In the manual training department, the choice of a trade is determined in part by the desire and inclination of the pupil himself, in part by the mental and physical abilities he has manifested, and in part by the financial remuneration to be secured. It is the object to select for each pupil that trade which will develop and employ his greatest earning capacity, provided it be not contrary to his taste and abilities. Classes have been organized in sloyd work, reed and raphia, bead work, caning and chair repair in the elemental manual department, but the advanced departments are yet to be established, since the school has been in operation less than three years, and since the oldest pupils are but fourteen years of age. Trades may be selected from the following: Farming, gardening, floriculture, care of poultry and stock, dairying, carpentry and woodwork, use and care of machines and engines, operation of elevators, leather work and making of shoes, braces and crutches, tailoring, dressmaking, millinery, printing, cooking, housekeeping and laundering. Wages will be paid to advanced students, who will then be charged for board. A saving fund has been established to cultivate habits of thrift and economy. Students will be graduated at the age of 21, when it is believed they shall have become wholly or partly capable of self-maintenance. They may, however, remain longer. The children are taught the use of good language and polite manners, respect for elders and obedience to those in authority, orderliness of conduct and care of property, and a spirit of unselfishness and of helpfulness toward each other. The principles of the Christian religion are taught, apart from any sectarianism. Every measure is employed to make the children happy, and to afford them pleasure and recreation.

The first patient was admitted to the school in March, 1906; to-day there are 91 children, ranging from 4 to 14 years of age, 61 boys and 30 girls. At present there are accommodations for not more than 120. Already such progress can be observed in the physical, mental and moral development of the children of the school that the founder and those in charge are encouraged to continue and advance the work, believing that the ultimate results will fully justify the great labor and the great cost of the undertaking.

Opportunities for Employment of Cripples

W. FRANK PERSONS, Superintendent of the Charity Organization Society: There is no provision in New York City for the industrial training of crippled adults. Special training for crippled children has not been provided until recently and is now woefully inadequate both in kind and amount. There has been little wisely directed effort to provide suitable employment and thus to save to self-support and to self-respect those who are obviously unfitted to engage, on equal terms, in the struggle for existence. The result has been great waste of character and of charitable funds. For ages public begging has been condoned as a recognized means of livelihood for cripples. The relative ease of this means of support constitutes an almost irresistible temptation to mendicancy for the cripple who had not special fitness for some occupation. During one period of fifteen months there were 1,863 arrests of confirmed mendicants by the mendicancy officers under the direction of the Charity Organization Society. Of these men and women, 701 were physically defective, and 447, or 24 per cent. of the entire number, were crippled. This, of course, is vastly higher than the percentage of cripples in the population. These figures are noteworthy as illustrating the result of the lack of industrial opportunity which must be encountered by each crippled person who is equipped with nothing but limited physical strength and diminished capacity. The mendicant cripples constitute a small proportion of the cripples who are not self-supporting and yet a smaller proportion of the entire number of cripples in the community. Charity is caring for thousands of cripples who could have been rendered wholly or partially self-supporting by special attention to their needs and latent abilities. It is not easy to place in employment a cripple who is without training related to his disability. Special and continuous study is required to discover a sufficient variety of opportunities for the employment of persons suffering every variety of partial disability and representing every degree of diminished capacity. But more necessary still is the individual and personal consideration which each person so disabled must receive in order to determine precisely his capacity for work and the surroundings in which he must be placed to safeguard his health and to enable him most fully to realize his possibilities.

During the fiscal year ending Sept. 30, 1908, applications from 264 cripples were registered in the special employment bureau for the handicapped. Of this number, 57 had been disabled by accident or injury to health due to the nature of their previous employment, the remainder, or 207, had become incapacitated through causes not connected with their previous employment. During the twelve months to which these statistics relate the whole number of applications registered in this bureau was 1,217. Of these applicants 477 were placed in steady employment at wages averaging $6.98 a week; temporary work was found for 234 others making a total of 711 handicapped persons who were helped during a year of great industrial depression. The experience gained in the special employment bureau thus far has made evident the imperative need for adequate and suitable specialized education and industrial training for crippled children who must start life under the heavy handicap of ill health and physical disability. The present opportunity for appropriate education for crippled children in New York City is admittedly insufficient. The best available census shows that there are 2,700 cripples of school age, and this is known to be incomplete. Some estimates place the number as high as 7,000. In all the schools and classes for such children there are registered 932 pupils. This indicates that there are at least 1,500 children in New York who are unable because of physical disabilities to attend regular classes in the public schools and who are without proper educational advantages.

The Care of the Injured and Crippled in Germany

DR. CHARLES H. JAEGER: During the past twenty years 1,500,000,000 marks, or $750,000,000 have been paid to injured workmen in Germany. This is the result of compulsory insurance laws passed in 1883. Similar laws have been adopted since in France and Great Britain. The insurance against sickness provides the workman in case of sickness with funds and medical attendance for twenty-six weeks, of which the employé pays two-thirds and the employer one-third of the premium. The rules are similar regulating accident, invalidism, old age pensions, provision for dependents in case of death, and are carefully graded in reference to degree of risk, occupation, age and other data. In any case of disability to work, the workman receives immediate attention and care, by the most efficient specialists, either by medicines or operation. In the former case he is sent during convalescence to such health resorts, as his condition requires. In the latter case he is thoroughly restored to his former efficiency by the aid of mechanotherapy. This system of therapeutics consisting of machines, scientifically constructed and capable of such delicate adjustment that the most tender joint or weakened muscle can be placed in the machines to be moved in exact psychologic line. The purpose of this is to strengthen the muscles, to loosen up the joints which have become stiffened by long wearing of splints, a condition accompanying all fractures of the bone. The importance of this after-treatment after illness is obvious when an accident patient has become crippled and unable to carry on his former occupation. Stations for this purpose are distributed all over Germany, 350,000 individuals receiving the benefit of mechanotherapy yearly. In New York there are two, one in the German Hospital and one at the Vanderbilt Clinic.

The magnitude and beneficence of this compulsory insurance can be estimated when one knows that from 11,000,000 to 12,000,000 are insured against sickness, 18,000,000 against accident, and 14,000,000 against old age. In case of accident, the compensation must be given even though there be negligence on the workman's part, unless the accident was caused purposely. The compensation begins 13 weeks after the accident, the sick fund or the employer being responsible meanwhile. The manner of receiving the compensation is simple. There is no lawsuit. There are no legal expenses or delay whatsoever. The employer's accident insurance corporation pays out the money through the nearest postoffice. The economy of this system is apparent, when one learns that the cost of administration in the compulsory insurance is only 13 per cent., while in the competitive companies in this country 68 per cent. of the premiums are eaten up in expenses and profits. When we take into consideration that the number killed in the army of labor is 500,000, which is 50 per cent. more than all killed in the late war between Japan and Russia, it will not be difficult to imagine how many are disabled by accident. It immediately assumes a sociologic aspect when we consider a crippled person unable to work, as most susceptible to be dragged down with his family to pauperism and criminality. The necessity can not be emphasized sufficiently of adopting such measures in our country of meeting the workman half way during the time of disability, and of establishing the most exemplary opportunities for his rehabilitation. Every right-thinking individual will agree that it is unjust that the workman should bear the brunt unaided, in the face of a hazardous career. Let us form as soon as possible a national association for the study and promotion of the compulsory insurance system in this country.

Discussion on Employment for Cripples

MR. SHERMAN, formerly Commissioner of Labor: All who have studied this subject agree with the opinions expressed and the conclusions drawn. The number of accidents reported in factories for 1907 was 19,000. Over 4,000 persons were either permanently injured or so seriously injured as to be permanently crippled. In about 90 per cent of all accidents

occurring in factories the victims were men; this means over 4,000 efficient industrious people thrown suddenly out of work. The law makes no provision for their care or support, and they are turned over to charity. The law in this state is the old common law in England. It provides that the employer shall provide a proper place for the employé to work in, but the employé assumes all ordinary risks and the employer is only liable when accidents occur through negligence on his part. Many accidents occur which are not the direct result of the negligence of either party. Frequently the accident is due to the negligence of neither the employer nor the one injured, but to some other party. The question frequently arises as to what negligence means and in this case the decision of the jury rests largely on the degree to which their sympathies are involved and not on facts. The courts are filled with these cases and even if a decision is rendered in favor of the employé the litigation usually covers a number of years and the employé gets only about 20 per cent. of the amount of damages, the remainder going to pay the legal machinery. The system is unjust. The industries of Europe have practically abandoned all such laws, the fundamental principle being that the industry must pay the costs of the injured. We might have an adaptation of the law as it exists in Europe. Then all classes of cripples would be provided for and that by money that was not wasted on litigation.

DR. VIRGIL P. GIBNEY: In New York City, hospitals and institutions for crippled children have grown up and are well supported, without being dependent on the city. I have seen former inmates of the Hospital for the Ruptured and Crippled begging on the street corners. They seem to tire of the hospital life and make a better living begging. The best way to prepare the cripples for usefulness in life is to endeavor to secure for them proper and useful limbs. That is what the Hospital for the Ruptured and Crippled does. The patients are kept long enough to give them the best possible use of their limbs. There are schools in connection with the hospital and it may be a surprise to many to know that the physicians have to get around early in the morning to get through with the hospital work so that the patients can go to school at 9 o'clock. There are singing classes as well as a good public school; and an industrial branch is also maintained. Many of the patients who were in the institution in the 70's and 80's are now useful members of society.

DR. THEODORE C. JANEWAY: Here, as in all philanthropic work to-day, the object should be prevention; the curative measures should be a secondary consideration. Crippled conditions arise in two different ways, as the result of accident and as the result of disease. Preventive measures applicable to the one class are not applicable to the other. In the case of accident prompt and efficient surgical treatment would often do away with a large amount of disability; this would not always apply to those crippled as a result of disease, but much could be done by prompt action in the treatment of tuberculous bone and joint diseases. The borderline cases, individuals only partially disabled, especially need looking after in order that they do not become public or private charges. Industrial training requires a primary basis of scientific research into the industrial possibilities of cripples of particular types. The real field of charity in this work is the extension of this field of research. It should be pointed out to those persons who are responsible for the education of crippled children that if training is to be of value to the individual or the community certain lines must be taken up in which opportunities are numerous in order to assure these unfortunates of self-support when they leave the institution.

MISS PERRY, Boston, told of the school for cripples which was started fifteen years ago and which during the past five years had made more progress than during the previous ten years. At present there were 75 children in the wards and the mental work corresponded to that in the public schools. There were thirty pupils in the industrial workshops. Instruction was given in the wards and the children were receiving manual training. Some worked two hours a day in the printing office, some at braiding, sewing, caning chairs, making boxes, etc.

DR. THORNDIKE, Boston: The problem of how the cripple can support himself is still unsolved. In the institution with which I am connected they are taught cobbling, boating and various other trades but it still remains to be seen whether or not they will be successful in their efforts. Just outside of Boston there is another school for cripples which is under state government. There are now 100 children there, many of whom are tuberculous. Before going to bed their clothing is warmed and then their shacks are thrown wide open; the schoolrooms are wide open all day and the improvement under this régime is phenomenal. They are taught outdoor employments, farming, gardening, etc.

DR. WALLACE, New York: Few realize how many crippled children there are in New York City. The annual report of the Hospital for the Ruptured and Crippled states that 6,082 new patients were treated in the outdoor department in one year. There are at least 7,000 crippled children in New York City. Last year 571 children were discharged from the Hospital for the Ruptured and Crippled and what became of them is not known. There are 564 crippled children in the various schools of the city. Among the things to be considered in the care of these children are transportation, food, manual training and mental training.

PHILADELPHIA NEUROLOGICAL SOCIETY

Regular Meeting, held Feb. 26, 1909

The President, DR. T. H. WEISENBURG, in the Chair

Chorea of Emotion

DR. S. WEIR MITCHELL: The affection which I call emotional chorea is perhaps more interesting than important. The terms emotional temporary ataxia would equally describe it. The patient whose case I report is a busy man of 45, whose general physical condition is excellent. He has always been healthy but inclined to be nervous. He worked hard for many years without holidays, with few pleasures, but no excess of alcohol or tobacco. His memory was so good that in his business of real estate transactions and building, he, for some years, trusted alone to his memory and kept no books. This seems to have involved a continual and unnecessary mental strain. His muscular power is good; he has no ataxia, sensation is perfect, knee-jerks are absent until reinforced, which has been the case with him at least for twenty years. Gait, station and eyes are good. His writing is distinct, clear and without tremor, while he is untroubled, but for the last twelve years he finds himself unable to write when people are overlooking him, as in a hotel register, for example; the first letters of his name are correctly penned, then there is abruptness and irregularity of the signature and his hand flies off, at times across the page. On the other occasions the effort to sign his name results in wild immediate movements of an ataxic character and in a signature which is practically unreadable. At times he is compelled to leave the dinner table since, when with strangers, it is almost impossible for him to feed himself, as he then becomes almost helpless, requiring both hands to get a cup of coffee or glass of water to his mouth. When alone this rarely occurs unless something strikingly reminds him of his failure. Under extreme excitement he is quite steady, and a single glass of whisky or a glass or two of wine puts an end to his choreic difficulty. A careful examination of the psychic conditions brings out certain interesting conditions. He confesses that at times he has a feeling of fear that if any one comes on him he would not be able to defend himself under attack, or be competent under circumstances of peculiar difficulty, but he doesn't suggest or imagine any special difficulty. Also, he has that other form of nervousness which we occasionally see and experience when sudden noises affect him more than they should do. Strenuous efforts to overcome his choreic trouble usually end in making him "nervous." I would here call attention to the nervousness of soldiers about to go into battle and in those who have undergone protracted physical suffering; also to the general nervousness of some people in which

self-consciousness plays an important part and which brings about difficulties in regard to habitual acts done under attention. It is but an illustration of what is seen in old age when a man aware of his tremulous hand becomes disturbed and shows increase of tremor or something of the more ataxic condition delineated. I have known persons whom no one would have described as nervous, who always disliked to be under observation while signing their name. A man, twice mayor of Philadelphia, who had to write hundreds of signatures, sedulously avoided having any one near while writing, lest the effect on distinctness of his sign manual would be such that some one would say: "He is failing." A glass or two of wine entirely abolished it and it always does so. Failing powers bring self-consciousness so that what has been almost automatic becomes a distinctly impaired act by being the subject of attentive volition. A short time ago four out of six men, two of them scientific, confessed that they did not like to be watched while making a signature. Recently a physician who has this infirmity told me that, if in a letter he had to express himself as being annoyed, his handwriting at once became so ataxic that he had to stop and determine to wait, and then he would take up the pen again quietly.

Discussion

DR. F. X. DERCUM: Dr. Mitchell's patient had been subjected to considerable strain of memory and possibly this was a factor in the diminished emotional inhibition, or emotional control. Of course, we can only speculate in regard to affections of this kind; we have nothing tangible from which to judge. When I first began to practice medicine I was annoyed very much if any one watched me write a prescription; I wrote much more illegibly than I otherwise would have done. I think that if we analyze ourselves we will be able to detect peculiarities that otherwise we would not have noticed.

DR. A. R. ALLEN: Possibly the most illegible writing that can be found anywhere is the usual hotel directory. I have seen a man of 33 or 34 who is of a very phlegmatic temperament, but who can not perform the act of micturition in public. I have known him to suffer from serious retention when it was impossible for him to get away from a crowd.

DR. W. G. SPILLER: We are apt to overlook little things and I am certain that I as well as others have seen many times the condition Dr. Mitchell has described as chorea of emotion, but never recognized it as such.

DR. J. HENDRIE LLOYD: Is the condition spoken of by Dr. Mitchell allied to the condition of psychasthenia, a condition of self-consciousness, the inability to control excitement? Any little nervous tension may then result in an inhibition.

DR. HORACE CARNCROSS: I have a patient, a young woman, who plays the piano perfectly when alone, but as soon as she is conscious of strangers in the room she can not play. If she is to play before others she is conscious beforehand that she is going to forget the pieces that she is thoroughly familiar with. When alone or in the presence of her family, to whom she is used, she does not forget her music.

DR. S. WEIR MITCHELL: It is well-known that the knee-jerk can be increased by causing emotion. There is but little doubt that it is the overflow from whatever part of the brain is excited emotionally and such overflow may be responsible for these irregular movements, just as they are in the activities of the knee-jerks.

The Relation of Tabes and Aortic Aneurism

DR. PAUL H. BIKLE: The frequent occurrence of tabes dorsalis and aortic aneurism in the same patient suggests the possibility of tabes being in some way a causative factor in aneurism. Syphilis is one of the chief causes of arteriosclerosis and also of aneurism. The Wassermann test has proved the pre-existence of syphilis in cases of aneurism and aneurism has at times proved a syphilitic affection. Syphilis is the chief etiologic factor of tabes. Blood pressure is raised and the pulse is accelerated in crises and lightning pains of tabes, but not to an extent sufficient to aid to any appreciable extent in the formation of aneurisms. The conclusion is that the occurrence of the two conditions in the same patient is a coincidence of cause, both being dependent on syphilis, in practically every instance.

Other Papers

The following cases were presented and papers read: "Cardiac Crises in Tabes," by Dr. S. D. Ludlum; "A Possible Case of Landry's Paralysis," by Dr. John H. W. Rhein; "A Case of Cerebellar Meningocele," by Dr. T. H. Weisenburg: (A) "Meralgia Paresthetica Recurring with Repeated Pregnancies," (B) "Myopathy of Unusual Distribution," by Dr. George E. Price; "Tuberculoma of the Brain," by Dr. M. D. Bloomfield.

Book Notices

VACCINE THERAPY AND THE OPONSIC METHOD OF TREATMENT. By R. W. Allen, M.D., B.S., Late Pathologist to Royal Eye Hospital. Second Edition. Cloth. Pp. 242, with illustrations. Price, $2.00. Philadelphia: P. Blakiston's Son & Co., 1908.

This volume incorporates a concise exposition of the theory and principles of bacterial vaccination and of Wright's method of estimating the opsonic value of serums. Chapters are devoted to the "Determination of the Opsonic Index," "Preparation of the Vaccine," "The Opsonic Index in Health and Disease; Its Value in Diagnosis, Prognosis and Treatment," followed by a series of chapters on certain of the infectious diseases.

The whole work suffers greatly in authority from the consideration which Dr. Allen gives to the *Bacillus paralyticans* as the cause of general paralysis of the insane, and to the *Micrococcus neoformans* as a cause of malignant tumors. In regard to the latter the humor of the situation is shown by the following paragraph (p. 209): "Successful treatment by means of a vaccine was recorded by Wright in a case of cancer of the larynx. Death, however, ensued in about six months, and was found postmortem to be due to cancer."

The work is of value in so far as it gives a fairly satisfactory summary of the main facts of the subject.

That Dr. Allen is an enthusiast on the subject of bacterial vaccination and opsonins, is shown by the closing words of the introduction: "It would appear that to the genesis of a new, of a scientific, system of medicine the impulse has now been given. The medicine of the future is the medicine of vaccines and sera. The empiricism of the past will give way to methods based on scientific knowledge, and the public will no longer look on medicine with a sceptical eye, and dose themselves with ineffective nostrums. The surgeon will triumph where he now fails, and, armed with additional power, he will not fear the inroads of bacterial invasion."

This is very good rhetorically, and may it all come to pass! Dr. Allen, of course, is speaking only of infectious diseases, a point which, in his enthusiasm, he neglected to specify.

ERGEBNISSE DER INNEREN MEDIZIN UND KINDERHEILKUNDE. Redigiert von Th. Brugsch, L. Langstein, Erich Meyer and A. Schittenhelm. Vol. II. Paper. Pp. 708, with illustrations. Price, 24 marks. Berlin: Verlag von Julius Springer, 1908.

The second volume of this new publication amply fulfills the promises both of the first volume and of the general plan of its editors. It will be recalled that the purpose of this work is to give in two large volumes a year exhaustive treatises on various subjects in internal medicine and pediatrics, by men whose authority is recognized in the particular subjects they discuss. This volume contains papers by Mayer, Göppert, Falta, Edens, Méry, Lewin, Rudinger, Uffenheimer, Müller, Gerhardt, Frankenhaüser, Orgler, Bloch, O. Heubner, and Reyher.

The scope of these papers can be seen, for example, in that of Göppert, who contributes 44 pages on purulent urinary infections in childhood, citing 104 of his own cases; that of Uffenheimer on the physiology of the gastrointestinal tract of the nursing and older child (96 pages), with a literary index covering 595 publications; that of Falta on the therapy of diabetes mellitus (70 pages); that of Gerhardt on irregu-

larities of the heart-beat (24 pages), etc. The editorial staff, composed of Kraus, Minkowskifi Fr. Müller, Sahli, A. Czerny, O. Heubner, is alone a guarantee of the nature of this work, which represents the highest type of German medical scholarship.

AMERICAN NATIONAL RED CROSS TEXT-BOOK ON FIRST AID AND RELIEF COLUMNS. By Major Charles Lynch, Medical Corps, United States Army. Cloth. Pp. 247, with illustrations. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1908.

This is the first of a series of text-books prepared for and indorsed by the American National Red Cross. The book is compact, concise and clearly written, and in addition to the subjects ordinarily considered in first-aid text-books, contains, as a special section under each head, suggestions for the prevention of accidents, injuries and illness. In addition to individual first aid, the book treats of first aid as rendered by relief columns, bodies designed to administer first aid as organization. Well-illustrated instructions are given for the transportation of the wounded, sick and injured, based on the drill regulations of the Hospital Corps of the Army. The book first gives a brief description of the anatomy and physiology of the body; next considers the matter of germs or micro-organisms, describes and illustrates first-aid materials, and gives general directions for rendering first aid, and then takes up specialties as regards shock, common accidents and injuries, common emergencies, occupation accidents and injuries, and injuries and emergencies of indoor and outdoor sports. Suggestions are given for first-aid contests between classes or associations or columns for the purpose of stimulating the study of first aid, and to arouse public interest in the subject. Major Lynch's publication is a most valuable contribution to first-aid literature, and it should be widely circulated, not only among first-aid organizations, but in schools, factories and other places where large numbers of individuals are employed. It will prove a great aid in the movement for the prevention and relief of human suffering.

MINOR MALADIES AND THEIR TREATMENT. By Leonard Williams, M.D., M.R.C.P., Physician to the French Hospital; Assistant-Physician to the Metropolitan Hospital; and Late Assistant-Physician to the German Hospital. Second Edition, Revised and Enlarged. Cloth. Pp. 404. Price, $2.50. New York: William Wood & Co., 1908.

The material utilized in this volume is taken from lectures delivered by Dr. Williams under various titles at the Medical Graduates' College and Polyclinic. While the matter has been revised and amplified, the general style of the original form has been adhered to, the object being to present in convenient and desirable form detailed information on questions which the ordinary text-book deals with in an unsatisfactory manner or ignores entirely. The author says: "The newly qualified medical man, while usually admirably equipped in the diagnosis and treatment of what may be called the classical diseases, is nevertheless but very partially informed on many subjects concerning which he will be expected to speak and act with authority as soon as he enters practice." Accordingly, he has collected a large amount of valuable and practical advice on such topics as colds, coughs, sore throats, indigestion, rheumatism, neuralgia and headache, change of air, etc.

TEXT-BOOK OF HUMAN PHYSIOLOGY, including a Section on Physiologic Apparatus. By Albert P. Brubaker, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College. Third Edition, revised and enlarged. Pp. 752, with illustrations. Price, $3.00. Philadelphia: P. Blakiston's Son & Co., 1908.

In addition to having the entire text revised, the third edition of this work has had about fifty pages of new material added. This new matter is found in those chapters which deal with the physiology of muscle tissue and of the heart and vascular system, with the chemistry of the proteins and with the nervous system and vision. The illustrations, which are numerous, have been made more valuable by the addition of some new diagrams. While the book is in no sense exhaustive, its freedom from discussions of matter having a purely academic interest makes it that much more valuable for the student. The arrangement of the subject matter is good and the amount of space devoted to various departments is well balanced. Possibly too much space is devoted to the study of optics, though the weakness of the average medical student in physics may justify any apparent over-emphasis given this particular subject.

APPLIED SURGICAL ANATOMY. By George Woolsey, A.B., M.D., Professor of Anatomy and Clinical Surgery in Cornell University Medical College. Second Edition. Cloth. Pp. 601, with illustrations. Price, $4.50. Philadelphia: Lea & Febiger, 1908.

This work is the result of eighteen years' experience in the teaching of anatomy. As the author modestly says "the number of excellent works on applied anatomy is large enough to render the exhaustion of an edition of any one a fair presumption of its fitness to survive." The work has been carefully revised, a number of sections having been rewritten or amplified, and about seventy-five additional illustrations introduced. It is a book to be commended, not only to students and teachers of anatomy and surgery, but also to practitioners.

PRACTICAL DIETETICS With Reference to Diet in Disease. By Alida Frances Pattee, Graduate Department of Household Arts, State Normal School, Framingham, Mass. Fifth Edition. Cloth. Pp. 358. Price, $1. Mount Vernon, N. Y.: A. F. Pattee.

This is a practical book which should be invaluable not only to nurses, but to physicians. The recipes are simple, and any household could furnish the ingredients. The articles on diet in special diseases are taken principally from the recognized text-books on dietetics. One part of the book is devoted to dietaries of various hospitals. Diet in infancy is given considerable space, various formulas being given. The appendix, "Practical Suggestions for the Nurse in the Sick-Room," is especially commendable.

INJURIES OF NERVES AND THEIR TREATMENT. By James Sherren, F.R.C.S. Eng., Assistant Surgeon to the London Hospital. Cloth. Pp. 310, with illustrations. Price, $2.00. New York: William Wood & Co., 1908.

This manual contains material used in papers previously published in medical journals. After considering the classification and method of production of nerve injuries, the symptoms resulting from incomplete and complete injury of the nerve and the method of examination in such cases, Sherren discusses the differential diagnosis and treatment of nerve injuries in general. Injuries of special nerves as the cranial nerves and cervical sympathetic nerves, the brachial plexus, the nerves of the lower and upper limbs and the cauda equina, are also considered. The illustrations, which are numerous and clear, are in most cases original.

GLIMPSES OF MEDICAL EUROPE. By Ralph L. Thompson, M.D., Professor of Pathology, St. Louis University School of Medicine. Cloth. Pp. 235, with illustrations. Price, $2.00. Philadelphia and London: J. B. Lippincott Co., 1908.

This is a reprint of a series of letters which originally appeared in the *St. Louis Medical Review*. The author touches lightly on the clinics and purely medical subjects and writes entertainingly of life in the various European capitals as seen by a casual visitor. His accounts of the little-written-of Scandinavian and Russian hospitals and universities are of special interest.

HYGIENE FOR NURSES. By Isabel McIsaac, Formerly Superintendent of the Illinois Training School for Nurses. Cloth. Pp. 208. Price, $1.25. New York: Macmillan Company, 1908.

This book is unusually practical in all its details, which might be expected from the fact that Miss McIsaac was for many years superintendent of the Illinois Training School for Nurses. She emphasizes the importance to nurses of a knowledge of hygiene and sanitation as applied to daily life: "Pure water and good drainage will not ensure against epidemics a household or hospital which harbors dirty ice-boxes, cellars stored with decaying fruit and vegetables, dirty kitchen sinks, drains, bath tubs and water closets, unclean beds, unwashed bodies and clothing, bad ventilation and food, and rooms crowded with useless decorations covered with dust."

THE DOCTOR IN ART. A Volume of Twenty-five Reproductions of World-Famous Masterpieces. Edited by Charles Wells Moulton. Cloth. Buffalo: The Douglas Publishing Co.

This consists of reproductions of twenty-five world-famous pictures dealing with medicine. Each illustration is accompanied by text describing the picture and giving the name of the painter.

Medicolegal

Rights in Licenses and Powers with Reference to Revocation of Same

The Supreme Court of Nebraska had, in the appeal of J. T. Mathews vs. Hedlund and the State of Nebraska, a case that was originally brought to revoke the license of Mathews as a physician. The State Board of Health revoked the license, and the District Court of Lancaster County affirmed its action. Then this appeal was taken, wherein the Supreme Court affirms the judgment of the district court, sustaining the revocation of the license.

The Supreme Court holds that an order made by the State Board of Health, under Section 9800 and following sections of Cobbey's Statutes of 1907, revoking for cause the license of a physician to practice medicine, surgery and obstetrics in Nebraska, may be reviewed in the district court by error proceeding under Section 580 of the Code of Civil Procedure, which provides that a judgment rendered, or final order made, by any tribunal, board or officer exercising judicial functions, and inferior in jurisdiction to the district court, may be reversed, vacated or modified by the district court. Said sections do not contravene Section 15, Article 3, of the Constitution of the State of Nebraska, nor are they repugnant to the fourteenth amendment to the Constitution of the United States.

In a hearing before the State Board of Health for committing a criminal abortion on a pregnant woman it is not necessary to allege or prove that she was in any stage of uterogestation, but simply that she was pregnant of a vitalized embryo or fetus. A trial and conviction in a competent court is not a condition precedent to the institution and prosecution of said proceedings.

In case the secretaries of the board refuse to issue subpœnas for witnesses for the defendant, or to compel witnesses to answer material questions propounded by him, or refuse to hear argument, that conduct will not be considered in the district court, unless the defendant requested the board to direct its secretaries to comply with the defendant's requests, and said board improperly refused so to do. In case the secretaries and the board find against the defendant, but by mistake or oversight the record does not evidence their said action, said board has power to correct its record so that it will speak the truth, even though error proceedings are then pending in the district court.

In contested proceedings for the revocation of a physician's license to practice medicine, it is within the discretion of the State Board of Health, and of its secretaries, to receive affidavits relating to relevant facts at issue in said hearing. In said proceedings, if it appears that the State Board of Health has acted within its jurisdiction, and that all of the jurisdictional facts essential to uphold its final order are sustained by some evidence competent for that board to consider, its orders will be upheld in error proceedings to the district court, and on appeal to the Supreme Court.

The Supreme Court bases its decision on reasons stated therefor by the Supreme Court Commissioners. In the opinion prepared by the latter they say, among other things, that the State Board of Health filed a motion to dismiss this case for want of jurisdiction of the court to review the board's order in error proceedings. The argument of counsel, although forceful and learned, urged no better reasons in favor of his client's contention than were presented in Munk vs. Frink, 75 Neb., 172, wherein the identical point was considered and decided against said board. The court was asked to overrule Munk vs. Frink for the alleged reasons that the board is not inferior in jurisdiction to the district court; that in said proceedings it exercises administrative functions only, and that its orders may not be reviewed by petition in error. But in the instant case the legislature selected three state officers and vested them with power to subpœna and examine witnesses, to take depositions according to the Code and to determine certain facts. While sitting as that special board, their functions approximate the judicial, and they are as well within the scope of Section 580 of the Code as were any of the officers referred to in the Nebraska cases cited.

It was urged that one can not have a property right in a license to practice medicine; that it is within the police power to name the conditions on which such a permit shall issue and may be enjoined, and that the holder thereof takes the privilege with the conditions annexed that his license may be revoked at any time by the power that gave it. There is much force in the argument, and many authorities may be cited to sustain it, but the commissioners are of opinion that after a license has been issued, the right thereunder to practice medicine is a valuable right, and one that may not be taken away without good cause; that if such license is canceled by a board of health, it must be on proper charges, with opportunity to appear and defend by the introducing of evidence and the cross-examination of those witnesses who testify against him at the hearing. The hearing in the present case did not involve the determination of the learning or professional skill of the defendant, but whether he had performed a criminal operation on the person of a patient. Under the circumstances of this case the revocation of the defendant's license was analogous to a forfeiture, and involved the exercise of judicial or quasi judicial power, within the meaning of Section 580 of the Code.

It has been uniformly decided in numberless cases that the legislature may regulate the practice of medicine, and require practitioners to conform to those requirements, or in default thereof cease their practice; that subsequent legislation may impose greater burdens on a practicing physician, and that thereby he is not deprived of any privilege or immunity guaranteed by the Constitution.

Any One May Testify to Own Ribs Being Broken—Careless Omission to Use Crutches

The St. Louis Court of Appeals says that it was assigned for error in the personal injury case of Wise vs. Wabash Railroad Co. that the plaintiff was permitted to testify her ribs were broken, the argument being that no one but an expert physician was competent so to testify. But what the plaintiff testified regarding this matter was admissible, for she said she positively knew her ribs were broken, and felt the ends of them rubbing against each other. The weight of her testimony was for the jury, and it was the privilege of counsel for the defendant to cross-examine her for the purpose of discrediting either her knowledge or truthfulness. A party to an action might testify corruptly or mistakenly about a rib or other bone in his body being broken, as he might about any other fact; but such an injury is not so obscure as to lie beyond the pale of common testimony and depend entirely on the opinion of experts.

With regard to a sprain or rupture of the ligaments of the foot, the plaintiff was not entitled to recover damages for any aggravation of the injury to her foot due to careless nonobservance of the advice of her physician about keeping her weight off it. Her statement that she used crutches for 18 months in the house, but not when she went outside, that she sometimes walked around a block of the town, went to church on Sunday, visited her friends in a carriage, walking to the carriage from the house and back without crutches, showed beyond question that she fell short of substantial compliance with the physician's direction. From the entire testimony it obviously was necessary for her to use crutches until her foot was well. The omission to use crutches to the extent she did was a disobedience of the physician's order, and one the jury might find was careless; for her excuse for her conduct was not the compulsion of some necessity, but that the crutches were awkward.

County Not Liable for Goods Destroyed by Local Board of Health

The Supreme Court of Appeals of Virginia holds, in Louisa County vs. Yancey's Trustee, that the county was not liable for goods destroyed by the local board of health after smallpox had broken out in a building in one room of which there was a general store and the building had been used as a place

of quarantine. The court says that by section 1713d of the Virginia Code of 1887 (page 885 of Code of 1904), the local board of health was authorized, among other things, to see to the abatement of nuisances. But there is no provision in that section, or elsewhere in the Virginia statute law, which makes the county liable for the value of property destroyed as a nuisance by the local board of health. Without such a statute, it seems to be well settled that there can be no recovery against a city, and still less against a county. It is also well settled that destroying property because it is a dangerous nuisance is not, as seemed to be contended in this case, an appropriation of it to a public use, but is to prevent any use of it by the owner and end its existence, because it could not be used consistently with the maxim, "So use your own as not to injure another's," and that in abating nuisances the public does not exercise the power of eminent domain, but the police power.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Erratum.—In THE JOURNAL, March 20, 1909, p. 993, the article in *Annals of Surgery*, February, on the "Cammidge Reaction in Pancreatic Disease," by E. H. Goodman, is referred to as having been published in the *American Journal of Medical Sciences*, January, 1909. The error was due to a misreading of a footnote in the latter journal. The articles are distinct. That in the *American Journal of Medical Sciences* was a preliminary report of work on experimental pancreatitis; that in the *Annals of Surgery* was a report on clinical investigations.

Medical Record, New York

March 20

1 *Nephrectomy, with a Report of Fifty-Three Personal Operations. G. E. Brewer, New York.
2 Cases Illustrating the Results of the So-Called Heath Operation. S. M. Smith, Philadelphia.
3 Hygienic and Climatic Prophylaxis of Tuberculosis in Childhood. F. L. Wachenheim, New York.
4 Blocking Stones in the Lower End of the Ureter. J. J. Buchanan, Pittsburg.
5 Roentgen Diagnosis of Calculi. R. H. Boggs, Pittsburg.
6 Medical and Sanitary Inspection of Schools. R. C. Newton, Montclair, N. J.
7 *Purpura Hemorrhagica; Is It Caused by the Colon Bacillus? S. J. Maher, New Haven, Conn.

1. **Nephrectomy.**—Brewer discusses a series of cases, including every case of nephrectomy in which he has personally operated, without any effort being made to select favorable cases, to demonstrate that the old ideas regarding the danger of nephrectomy *per se* are exaggerated; and that with our modern methods of examination the kidney can be removed in suitable cases with comparatively little risk to life.

7. **Purpura Hemorrhagica.**—Maher reports a case of acute and fatal purpura hemorrhagica in which the blood was examined, with the following results:

1. The recently extravasated blood of this case of malignant purpura hemorrhagica contained clumped in its leucocytes bacilli having the cultural and other characters usually ascribed to the colon bacillus.
2. The bacilli isolated either from the fresh or from the old blood had the power on intraperitoneal injection into guinea-pigs, not only to kill the animals in a few hours, but to produce on the wall of the animal's intestines and stomach purpuric patches identical in appearance with those that characterized the disease in the human body.
3. This power to produce purpuric patches on the walls of the intestines of the injected animal was striking and constant, even after the bacillus had passed through four series of guinea-pigs.
4. This power was diminished in the cultures that had been kept for eight days or more in the incubator, although the keeping of the cultures fourteen days in the incubator did not lessen the pathogenicity of the bacillus.
5. The white rat, though more resistant to the first cultures of this bacillus, succumbed in exactly the same way as the guinea-pig when injected with the bacillus that had been through four guinea-pigs.
6. The colon bacillus, although usually fatal to injected guinea-pigs, does not kill so quickly and does not cause the appearance of purpuric patches on the intestinal and stomach walls of the injected animals.

New York Medical Journal

March 20

8 *Pathologic Discovery and Its Bearing on Preventive Medicine. J. G. Adami, Montreal, Can.
9 *Angina Pectoris and Overfeeding. J. Daland, Philadelphia.
10 *An Aid to the Diagnosis of Tuberculosis in Infancy and Childhood. L. Fischer, New York.
11 Excision of Chancre. G. F. Lydston, Chicago.
12 The Prostate, with Reference to the Curability of Gonorrhea. A. L. Wolbarst, New York.
13 Gonorrheal Urethritis in the Female. A. Samuels, Baltimore.
14 *Unusual Cases of Bromid Eruption in Childhood. F. C. Knowles, Philadelphia.
15 Metabolism of Certain Skin Disorders. J. C. Johnston and H. J. Schwartz, New York.
16 Improved Method for Fixation of Tissues and Staining of Sections. J. V. May, Binghamton, N. Y.

8. **Pathologic Discovery and Preventive Medicine.**—Adami combats the false conception of pathology that would limit it to morbid anatomy and histology—the study of the gross and microscopic changes in diseased tissues. Pathology is more than this. It includes the study of disease in all its aspects. It is the science of medicine or all save the not unimportant part that deals with treatment. It is the exact study of the causes, the processes and the results of disease. In regard to preventive medicine it is in the infectious diseases that pathologic research has effected the greatest revolution. Adami discusses the general decrease in the death rate in the last three centuries, taking London as an example, because it is the city which combines greatest population with best hygienic conditions and lowest mortality during the greater part of the last 100 years. Since the discoveries of the causative agents of disease and the utilization of this knowledge the diminution of the death rate in London has been accelerated more than twofold. Had New York been taken, the figures would have yet been more striking, but not so accurate, because there was not in New York to anything like the same extent that preparatory method of progressive reduction in mortality due to an enlightened enforcement of legislation. Adami illustrates his general principles by means of a specific consideration of tuberculosis, malaria and yellow fever. He points out the unsatisfactory conditions under which preventive medicine is carried out in many places. Those who are engaged in this work should do so under conditions that would enable them to devote their life's energy to it. They should receive adequate salary to place them beyond need without the necessity of augmenting their income by private practice or other means, and permanence of position should be assured to them. The author foresees the time approaching rapidly when the good of the community will demand that an important section of the members of our profession shall be servants of the state, their work devoted not to the cure, but to the prevention of disease. He urges the importance of the development of a common health service for the whole Union.

9. **Angina Pectoris.**—Daland reports a case presenting the sensory symptom-complex known as angina pectoris, which showed no signs of the ordinary causes, namely, syphilis, alcoholism, nicotinism or excessive exertion. In addition to excessive mental toil and excitement due to the patient's occupation and the occurrence of rheumatism nearly half a century ago, the only factor of importance was the habitual bolting of large quantities of food, rich in proteids and carbohydrates, producing a marked disturbance of metabolism, as evidenced by the occurrence of indicanuria, acetonuria and intercurrent glycosuria in quantities as great as 8 per cent.

10. Abstracted in THE JOURNAL, Nov. 7, 1908, p. 1627.

14. **Bromid Eruption.**—Knowles summarizes his article as follows:

1. Bromid eruption may occur in those who are susceptible, independent of the dose of the drug or the length of the administration. The larger the dosage, and the longer the ingestion, the greater is the chance of an outbreak.
2. There are practically no constitutional or subjective symptoms in most cases.
3. Because of the slow elimination, the eruption may continue to appear for some weeks after the drug has been discontinued.
4. Almost any type of eruption may be present; in childhood the lesions are usually larger and more persistent than in adult life. The extremities and the face are the parts most frequently attacked; the most extensive eruption, in the majority of the cases, occurs on the legs.
5. Lesions have a great tendency to occur at points of previous inflammation, such as on vaccination scars or injuries.

Boston Medical and Surgical Journal

March 18

17 *Arteriosclerosis. G. S. C. Badger, Boston.
18 *Some New Applications of Electricty and Light in Medicine. H. W. Van Allen, Springfield, Mass.
19 *Hand Sterilization (continued). C. G. Cumston, Boston.

17. **Arteriosclerosis.**—Badger discusses this subject and says among other things that the presence of arteriosclerosis does not always call for treatment. There may be no symptoms attributable to it, and the damage already done to the vessel walls can not be cured; at best, the process may be stayed or hindered. Etiologic factors must be corrected. The presence of high blood pressure does not always demand treatment, as in some cases it is protective against disaster; a falling pressure is often an ominous sign. The main reliance in treatment must be placed on the ability properly to regulate the life of the individual.

18. **Electricity and Light in Medicine.**—Van Allen describes some of the later applications of electricity and light in medicine, and says that one of the most valuable additions to diagnosis by Roentgen ray is the stativ, which makes the study of the movable organs in motion possible, and, together with the use of bismuth, opens up new fields of investigation in stomach and sinus work. Kidney conditions, beside stone, are many times shown. The Morton wave current reduces congestion and chronic inflammation. Autocondensation modifies the high blood pressure so frequently observed in American life. Light combined with heat is useful in superficial skin conditions and in local chronic inflammation of joints and muscles.

19. Published in the *Dublin Journal of Medical Science*, January and February, 1909.

Lancet-Clinic, Cincinnati

March 20

20 *Gastric and Duodenal Ulcer. W. D. Haines, Cincinnati.
21 *Duty of the Physician in Raising the Standard of Rural Life. B. Holmes, Chicago.
22 Factors in the Development of Acute Pulmonary Edema. J. L. Miller, Chicago.

20. A practically identical paper by the same author was abstracted in THE JOURNAL, Jan. 30, 1909, p. 414.

21. **The Physician and Rural Life.**—Holmes points out the duty of the physician in raising the standard of rural life. He remarks on the numbers of young men and women who, having good country homes and considerable financial resources, yet have a distaste for farm and country life, and rush into the cities. He discusses the causes of this, and says that both from a social and artistic standpoint the farmhouse is woefully below the standard of the city. Our people do not seem to know what a garden is. This is due not to lack of resources, but to lack of taste. The causes of this distaste to country life, notwithstanding the improved conditions of farming operations and the introduction of means of culture, must be looked for in uncongenial neighbors or faulty education. The standard of life, to effect anything, must be communal rather than family or individual. Rural life must be idealized, farming must be not a trade but a life vocation. The farm must be looked at, not as "a plant," but as "a home." The country school education assists the exodus by being a stepping stone to the town school as that is to the city school. Not a single hour in a year's schooling is devoted to idealizing farm life; on the contrary it tends to disparage the farm. Association and excitement are requisite. Good roads, the trolley and the automobile will encourage the former; the latter should be furnished at home. Sports should be encouraged in the country as they are in the city. Festivals, fêtes, etc., should be encouraged. By example the physician may show what may be done to make the home convenient, comfortable and inviting, and to demonstrate the labor-saving and life-saving decencies of the city house, applied under rural surroundings. He may help the school and the uplifting of the merchant class. Holmes thinks it possible that an active part in such a social movement would restore the doctor to that leading place in the community which, it must be admitted, he has failed to inherit from his ancestors.

Northwestern Lancet, Minneapolis

March 15

23 Obstetric Observations Based Chiefly on Fifty Recent Confinements. F. Leavitt, St. Paul.
24 Exophthalmic Goiter. F. A. Dunsmoor, Minneapolis.
25 Eye, Ear, Nose, and Throat Conditions in Children. E. D. Putnam, Sioux Falls, S. D.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

February

26 Treatment of Typhoid with a Solution of Calcium Creosote. L. Kolipinski, Washington, D. C.
27 *Ocular Traumatism, A Cause of the Neuroses. H. F. Hansell, Philadelphia.
28 Tuberculosis of the Uterus, Cervix, and Vagina, with Pyometra. E. A. Schumann, Philadelphia.
29 Thyroid Preparations in Practice. C. E. de M. Sajous, Philadelphia.
30 Diabetes Mellitus and Catarrhal Jaundice. J. V. Shoemaker, Philadelphia.
31 The *Spirochæta Pallida*. W. C. Batroff, Philadelphia.
32 Baldness. M. L. Ravitch, Louisville, Ky.

27. **Ocular Traumatism.**—Hansell insists that ocular traumatisms, like traumatisms to other parts of the body, may be the cause of hysteria, and he discusses the value of expert medical testimony in trials for damages resulting from ocular injuries and their effects on the nervous system. He contends that medical testimony has come to mean nothing. The evidence of one expert is balanced by that of another. As a remedy he would advocate the exclusion of medical experts selected by interested parties from all cases.

Journal of Missouri State Medical Association, St. Louis

February

33 *Treatment of Fracture of the Shaft of the Femur by Combined Plaster-of-Paris and Light Iron Splints. W. B. Deffenbaugh, St. Joseph.
34 Fibroid Tumors of the Uterus Complicated with Pregnancy. W. B. Dorsett, St. Louis.
35 Prophylaxis of Insanity. W. Robinson, Nevada.
36 National Public Health Movement. M. P. Overholser, Harrisonville.
37 Misleading Conceptions in Treatment of Appendicitis. H. C. Crowell, Kansas City.
38 Inversion of the Uterus, with Expulsion of Large Necrotic Myoma. F. Hinchey, St. Louis.
39 The Physician's Relation to the Pharmacist, Practically Considered. J. L. Ormsbee, Springfield.
40 Therapeutics. W. A. McKelvey, Minden Mines.
41 Tuberculous Adenitis of Mesenteric Lymph Nodes. L. Rassieur, St. Louis.

33. **Combined Plaster and Iron Splints.**—Deffenbaugh describes the treatment of fracture of the shaft of the femur by long flexible galvanized iron splints, one inch and a half wide, and sufficiently long to reach from the waist to a little below the external malleolus. This splint is attached to the outer side of the leg, and plaster bandages are applied over it. Deffenbaugh claims for this method that it is easily procurable, cheap, affords the best form of immobilization by plaster-of-paris, together with extension and counterextension by means of the splint, lightness, promptness, shorter stay in bed, ease of application and comfort.

American Medicine, Burlington, Vt.

February

42 Symptoms and Diagnosis of Incipient Tuberculosis. J. B. Huber, New York.
43 Influenza Affecting the Upper Respiratory Tract. H. Jarecky, New York.
44 *Surgical Treatment of the Tuberculous Larynx. L. J. Hammond, Philadelphia.
45 Diet and Elimination of Chlorids. J. C. Warbrick, Chicago.
46 Ulcus Carcinomatosum Diagnosed During Life. Partial Autopsy. A. Bassler, New York City.
47 Diet in Chronic Diseases of the Adult. W. Stevens, New York.
48 *Prophylaxis and Treatment of Diarrheas of Children and of Gastric Disturbances. H. Johnston, Birmingham, Ala.
49 Short Biography of Dr. J. J. Elwell. T. H. Shastid, Marion, Ill.
50 Prostatectomy and Bladder Surgery. C. Goodman, New York.

44. **Laryngeal Tuberculosis.**—Hammond discusses the symptoms, prognosis and treatment, and says that the indications for surgical treatment of the larynx are: (1) To relieve dyspnea and dysphagia; (2) to encourage healing of the ulcers by forced rest of the larynx; (3) to put the larynx in a condition to derive the greatest benefit from local treatment. The results of tracheotomy in his hands have been very encouraging, and he considers that this procedure should be recommended as a cure for laryngeal tuberculosis early in the disease, as soon as the classic symptoms are demonstrated, and for the relief of those in whom the disease is advanced beyond possible recovery.

48. **Gastric Disturbances of Children.**—Johnston urges that the first indication in the treatment of bile trouble in infants is dietary. Food must be stopped for a longer or shorter interval, but the nursing baby returns to it earlier than the older child. The food should be weak and small in quantity. After stopping the food, the stomach and bowels must be emptied, the first by a stomach pump, the second by castor oil or calomel. When the intestinal tract is empty we may resort to astringent medicaments, of which Johnston prefers bismuth subnitrate. Children early show shock, wherefore stimulants are soon demanded, and Johnston regards whisky in small doses as the best nerve stimulant for a child. The nervous system must never be forgotten, and there must be as little friction as possible. Irrigation of the bowels with normal salt solution is useful. Quiet, plenty of water and fresh air and carriage driving if possible, in the early morning or evening, are called for. Hydrotherapy should be resorted to for fever. He sums up as follows: "Treat the individual—treat him as a corporate whole and not as a mere inflamed or irritated bowel—and do not forget his nervous system."

Woman's Medical Journal, Toledo, Ohio

February

51 Psychotherapy, Its Use and Abuse. L. V. G. Mackie, Attleboro, Mass.
52 Cesarean Section for Disproportion Between Pelvis and Fetus and Accidental Hemorrhage. M. K. Formad, Philadelphia.

Journal Abnormal Psychology, Boston

February-March

53 *An Interpretation of the Psychoanalytic Method in Psychotherapy, with Report of a Case so Treated. W. D. Scott, Chicago.
54 Emotional Expression in Dementia Præcox. J. W. De Bruyn, Ann Arbor, Mich.
55 Mental Causes in Bodily Disease. T. A. Williams, Washington, D. C.
56 *The Unconscious (concluded). M. Prince, Boston.

53. **Psychotherapy.**—Scott discusses the psychoanalytic method, and says that it seems a matter of indifference which means of applying the method is used, whether hypnosis, hypnoidization or free association. He holds that the psychoanalytic method is nothing more than an unusually skillful application of the method of suggestion, and that it offers no proof of the existence of subconscious complexes of suppressed emotional ideas.

56. **The Unconscious.**—Prince closes his consideration of the unconscious with a consideration of the influence of the unconscious on the psycho-physiologic organism: the psychogalvanic reflex; visceral disturbances and mental disturbances; the excitation of psychopathic states; and the influences of psychoanalysis on the mental processes of every-day life. He describes and illustrates the splitting of complexes, and says that the great mass of our ideas involve associations of the origin of which we are unaware, because the memories of the original experience have become split, and a large portion thus has become forgotten, even if ever fully appreciated. There is every reason to believe that much of this forgotten history can be recovered by appropriate psychoanalytic methods.

American Journal of Medical Sciences, Philadelphia

March

57 *The Dietetic Treatment of Diabetes. T. C. Janeway, New York.
58 *Cardiac Dangers in High Altitudes. J. N. Hall, Denver, Colo.
59 Thrombosis of the Inferior Vena Cava. E. R. Stillman and L. W. Carey, New York.
60 *Complete Auriculoventricular Dissociation Without Syncopal or Epileptiform Attacks. G. Bachmann, Philadelphia.
61 *Origin of the "New-Leather" and "Dry-Friction" Sounds Heard on Auscultation. H. Sewall, Denver, Colo.
62 Habitual or Recurrent Anterior Dislocation of the Shoulder. T. T. Thomas, Philadelphia.
63 Roentgenographic Study of Peristalsis: Relation of Wave Form to Functional Activity. C. L. Leonard, Philadelphia.
64 *Intestinal Sand: The Banana One of its Sources. J. S. Myer and J. E. Cook, St. Louis, Mo.
65 General and Specific Resistance to Tuberculous Infection. K. von Ruck, Asheville, N. C.
66 The Effect of Tuberculin Treatment on the Serum Agglutination of Tubercle Bacilli. H. M. Kinghorn and D. C. Twichell, Saranac Lake, N. Y.
67 *Value of Roentgen-Ray Examination in Diagnosis of Pulmonary Tuberculosis, Especially Early Tuberculosis. P. Krause, Jena, Germany.
68 Treatment of Tinea Tonsurans. R. L. Sutton, Kansas City, Mo.

57. **Diabetes.**—Janeway says that we are powerless to influence carbohyrate metabolism directly. Extracts have done no good; drugs nothing more than relieve symptoms; diabetic treatment is our main stay. Diabetes is primarily a disturbance of nutrition in which the power of utilizing carbohydrates is more or less completely impaired. Because the diabetic can use little, if any, of the carbohydrate of his food, he loses this amount of potential energy through the urine; hence loss of flesh and strength. The problem of the management of the diabetic, therefore, is to nourish the organism with little or no carbohydrate, and at the same time to avoid the danger of acid intoxication, which arises when no carbohydrate is being consumed. Treatment must be based on correct diagnosis, which means more than the discovery of sugar in the urine. It means the determination of (1) the degree of impairment of carbohydrate metabolism or its inindex, the severity of glycosuria; and (2) the presence or the degree of secondary disturbance of the metabolism, that is, the severity of the acidosis. After describing the mode of estimation of the carbohydrate tolerance and the determination of the degree of acidosis, and discussing the general examination of the patient and the mode of classifying cases, Janeway states that the normal adult provides from 1,500 to 2,000 calories of his daily energy requirement in the form of carbohydrates. For the diabetic almost all of this is lost; he must, therefore, be nourished on protein and fat. The test diets given by Janeway contain about 2,000 calories in fat (1 gram = 9.3 calories); butter, thick cream, bacon, oil and cheese figure in them largely. The first three are foods of the utmost importance for the diabetic. Some difficulty may arise in having it eaten. Fat is not agreeable to many, and in some cases causes digestive disturbances. As a help in fat digestion alcohol is of distinct value, and it is next to impossible to give the large amounts of fat necessary in diabetes without wine or spirits being taken at the same meal; sweet wines are prohibited. The amount should not exceed an alcohol content of 40 grams in the day. An instructive example of the need for alcohol in the diabetic dietary is that of a Methodist clergyman, who objected seriously to taking whisky, and abandoned its use every few months. Each time he did so, an attack of fatty diarrhea made him speedily resume it.

In every case of diabetes the aim should be to free the urine from sugar. The two chief obstacles are psychic, not physical. They are laziness or ignorance in the physician, and self-indulgence in the patient. Sugar and sweets in every form must be permanently interdicted. Patients should be taught to avoid unsuspected sources of starch, such as sauces, gravies and soups thickened with flour. They should be provided with a list of the foods allowed and of those forbidden, and should be quizzed on these until sure of their ground. Excessive water drinking is unwise. Von Noorden's plan of arranging the diet in periods is immensely helpful, and Janeway advises physicians to familiarize themselves with its details, which may be found in his Herter lectures on diabetes. He gives tables of standard strict diet, standard diet with restricted protein, general diet list, dietary equivalents, for mild cases, and for "green days." Acidosis, which occurs during carbohydrate starvation in the normal individual, assumes much more serious proportions in the diabetic. When present it should be watched during treatment as carefully as the glycosuria. Janeway insists that the attempt to overcome the acidosis by allowing much carbohydrate, almost always fails of its purpose. In such cases permanent restriction of the protein is of the greatest value, and occasional "green" or "hunger" days are essential. Janeway considers gluten bread the diabetic's worst enemy.

58. **Cardiac Dangers in High Altitudes.**—Hall discusses the effects of high altitudes in Colorado, and concludes that patients with valvular disease, but with well-nourished heart muscle and fair arteries, almost regardless of age, may go to reasonably high altitudes with safety, if only they follow the rule of making no exertion which causes any considerable dyspnea.

60. **Auriculoventricular Dissociation.**—Bachmann discusses the history of our knowledge of this condition and describes the case of a woman 35 years of age, single, who suffered from it without any complicating syncopal or epileptiform attacks. The article is accompanied by many tracings showing, among other things, the effect of strophanthus and atropin. From published cases, together with the one here reported, Bachmann considers it indubitable that heart block, with its usual bradycardia, can occur independently of any nervous disturbance, which latter, as before stated, is part of the Adams-Stokes syndrome. He calls attention to this because of a tendency to use the two terms, Adams-Stokes syndrome and heart block, as synonyms. Why attacks of vertigo, syncope, etc., should occur with certain cases of heart block and not with others can not yet be satisfactorily answered. In nearly all cases of heart block with the Adams-Stokes syndrome, it has been observed that the attacks were immediately preceded by stoppage of the ventricles, the auricles continuing to beat regularly. The vertigo, loss of consciousness and epileptiform convulsions are therefore thought to be secondary to the arrest of the ventricles and due to anemia of the nerve centers. The cause of ventricular stoppage we do not know.

61. **"New-Leather" and "Dry-Friction" Sounds.**—Sewall reports a case in which positive proof was afforded that "new-leather sounds," as well as the "dry-friction rub," may be perceived in the chest wall when there can be no suspicion of pleural friction. In the case reported he holds that they must have been due to the rubbing together of tissue elements during respiratory movement.

64. **Intestinal Sand.**—Myer and Cook report an interesting case of intestinal sand which they trace unmistakably to resin balls found in the milk tubes of the banana. These resin balls, the contents of the cells, suspended in a fluid rich in tannin, are affected by the secretions of the stomach and intestine in a manner similar to the action of the ferric chlorid, hardening the resin and producing an insoluble tannate. The cell wall is digested or destroyed, and the resin-tannin-containing mass is liberated as a grain of sand. The extreme hardness of the grain found in the feces is due evidently to the prolonged influence of the secretions and salts in the intestinal canal, and the color to a tannate formed, influenced perhaps by other coloring matters in the intestines.

67. Abstracted in THE JOURNAL, Nov. 28, 1908, p. 1897.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

March

69 *Blood Pressure, Leucocyte Count and Ophthalmoscopic Examination in Diagnosis of Pre-eclamptic Toxemia. A. J. Skeel, Cleveland, O.
70 *Decidual Change in the Endometrium Due to Causes Other Than Pregnancy. J. R. Goodall, Montreal, Canada.
71 A Variety of Chronic Endometritis, Characterized Clinically by Profuse Hemorrhages. C. C. Norris, Philadelphia.
72 The Sarcomatous Metaplasia of Certain Uterine Fibromata. E. A. Schumann, Philadelphia.
73 Ligation of Pelvic Veins for Puerperal Pyemia. H. N. Vineberg, New York.
74 Protection of the Accoucheur and his Patient. D. H. Stewart, New York.
75 *Surgery of the Spleen with Special Reference to Trauma, A Method of Encapsulation, and Reports of Cases. W. C. G. Kirchner, St. Louis.
76 Fibroid Tumors Complicating Pregnancy. J. H. Carstens, Detroit, Mich.
77 A Month at Bumm's Clinic, Berlin. C. MacFarlane, Philadelphia.
78 Fibroid Tumor of the Uterus Simulating Pregnancy. R. B. Hall, Cincinnati.
79 Hemorrhage at Time of Delivery an Important Factor in Prevention of a Full Secretion of Milk. J. G. Drennan, St. Thomas, Ont.
80 *Acute Gastric and Duodenal Dilatation Treated by Gastro-jejunostomy with Recovery. G. Torrance, Birmingham, Ala.
81 *Care of the Rheumatic Child. Le G. Kerr, Brooklyn, N. Y.

69. **Pre-eclamptic Toxemia.**—Skeel reviews extensively the literature of this subject with reference to urine, blood pressure, eclampsia, pre-eclamptic toxemia, leucocytosis, ocular changes, etc., and draws the following general conclusions:

Albumin as a trace in the urine is of no value. It is present in a large proportion of cases of normal pregnancy.

Albumin in considerable quantity, especially if increasing, is a strong indication of mischief. The entire absence of albumin is no proof that the woman is not toxic. Casts and diminished 24-hour quantity add to the value of the urinary findings. Specific gravity is of aid if the 24-hour quantity is known.

Blood-pressure findings taken by the fingers are of little or no value. The instrumental method must be used.

The blood-pressure of pregnancy is normal until the last two months, when a slight rise occurs. This rise should not give a reading in excess of 150 mm. The presence, over any period, of a greater pressure than this should be considered a serious matter. During labor the pressure is somewhat elevated and quite variable, and is consequently not to be depended on. After labor blood-pressure should quickly drop to normal. In eclampsia, the blood pressure is uniformly elevated, often to an extreme degree. In pre-eclamptic toxemia blood pressure is probably always elevated, and is of diagnostic and prognostic importance.

The fact that albumin and casts, with rise of blood pressure, may also be present in nephritis in no way detracts from their value here, because we know that with increasing albumin and increasing blood pressure in pregnancy, convulsions are imminent, regardless of whether or not we are able to distinguish the immediate cause of the patient's condition.

The leucocyte count in eclampsia and pre-eclamptic toxemia is increased 50 per cent. and upward over the normal at the given period.

When using the leucocyte count in these patients care must be taken to exclude the leucocytosis of digestion, inflammation, hemorrhage, drugs, etc., and to remember the normal marked increase during and immediately following labor. One must also bear in mind the greater count normally present in primiparæ as compared with multiparæ, throughout pregnancy, labor, and the puerperium.

In demonstrable ocular disturbances of early pregnancy, especially when accompanied by ophthalmoscopic lesions, evacuation of the uterus is indicated. In the latter two months of pregnancy these same lesions indicate a high grade of toxemia, but should be compared with the other findings to decide the treatment.

The whole symptom-complex should be carefully studied day by day, and as all the methods described are readily available in nearly every community, the general practitioner should have no difficulty in making use of them.

70. **Decidual Change Not Due to Pregnancy.**—Goodall reports four cases which he looks on as conclusive proof that decidual change, typical in every detail, can occur without pregnancy; and, moreover, the change in pseudodecidua is similar, not to fresh living and functioning decidual tissue, but to tissue that has undergone some degree of morbid retrogressive change, such as one finds in the endometrium of incomplete abortions and in casts of ectopic gestation. This fact makes the findings of greater interest medicolegally, and is just the condition which one usually finds in sections of uterine casts from cases of ectopic gestation. He draws the following conclusions:

1. Typical decidual tissue, involving the whole endometrium and indistinguishable from that associated with pregnancy can occur without the presence of a fertilized ovum.

2. The agents concerned in the present cases in producing this change seem to be a combination of chronic pelvic inflammatory changes acting on a susceptible patient.

75. Abstracted in THE JOURNAL, Oct. 24, 1908, p. 1458.

77. **Bumm's Clinic.**—MacFarlane describes the aseptic technic, Bumm's method of saving the perineum, of dealing with perineal tears, eclampsia and labor in contracted pelvis. She further describes his operative methods.

80. Published in the *Alabama Medical Journal*, November, 1908, and in the *New York Medical Journal*, Jan. 9, 1909.

81. **The Rheumatic Child.**—Kerr points out that even the discovery of a micro-organism of rheumatism would not necessarily exclude the existence of a favoring diathesis. Recognition of a diathesis presupposes that appropriate methods will be instituted to prevent the disease which such a diathesis favors. The child of a rheumatic parent is liable to develop the disease, almost certainly if both parents are rheumatic. It is important to put the defensive arrangements into the best possible condition. These are (1) the resistant power of epithelium; (2) healthy endothelium; (3) perfect elimination; (4) healthy condition of those organs that invite infection or favor growth of organisms, especially the tonsils; (5) that "indefinite something" known as the "recuperative power." The first three depend on co-ordination and cooperation of all parts; in other words, good general health. The fourth demands removal of diseased tonsils and adenoids. The fifth depends on temperament and health. We can influence the latter, though not the former. There are certain initial manifestations of rheumatism. The most common is tonsillitis. Others are pain in the chest and exertional dyspnea irrespective of heart disease, chorea, so-called growing pains or myalgia, torticollis and subcutaneous nodules, pleurisy and frequent attacks of bronchitis, epistaxis and enuresis, and erythema. It is not wise or necessary to wait for articular

developments. The time to treat rheumatism successfully in children is when any clinical manifestation, backed up by a positive family history, makes the physician suspicious of the tendency to the disease. The indications for treatment are etiologic, pathologic and clinical: 1. The Etiologic Indications are: (a) Absolute rest, both mental and physical; (b) avoidance of solid foods for a few days, abstinence from meat and meat extractives, restriction of sugar, rich proteid foods, whole milk, ripe fruits being allowed, also dextrinized cereals. 2. Pathologic indications are: (a) Combat inflammation of joints; (b) limit or prevent extension to heart, lungs, pleura, or meninges. 3. Clinical indications are: (a) Hyperpyrexia calls for ice bag and tepid sponges; (b) pain in joints calls for rest and local applications; (c) to limit damage to joints use gentle flexion when temperature is subsiding; (d) for tachycardia use a cold compress over heart, fifteen minutes out of every hour; (e) profuse perspiration should be wiped dry at first, but not checked; later it may be stopped by tepid baths; (f) anemia and debility call for tonics, etc. The author considers salicylates of value, but only as palliatives. They tend to disturb the digestion in children and can not be continued long; sodium bicarbonate should be given with them or immediately following their discontinuance. There is this chief difference between the adult and child types of rheumatism. In the former it is expressed as an acute polyarthritis, with the symptoms all massed. In the latter, its common occurrence is in the non-arthritic forms, with cardiac changes as a common manifestation and the symptoms spread over a long period, so that often the history of the disease is the history of the child's life.

Journal of Experimental Medicine, New York

March

82 *Active Immunity Produced by So-Called Balanced or Neutral Mixtures of Diphtheria Toxin and Antitoxin. T. Smith, Boston.
83 Histologic Changes in Nerve Cells Due to Total Temporary Anemia of the Central Nervous System. L. Gomez and F. H. Pike, Chicago.
84 *Pathologic Anatomy of the Pancreas in Ninety Cases of Diabetes Mellitus. R. L. Cecil, New York.
85 Studies in Edema. M. S. Fleisher, D. M. Hoyt, and L. Loeb, Philadelphia.
86 Postmortem Rigor of Mammalian Heart and the Influence of An Antemortem Stimulation of the Pneumogastric Nerves on Its Development. D. R. Joseph and S. J. Meltzer, New York.
87 Action of Glandular Extracts on the Contractions of the Uterus. I. Ott and J. C. Scott, Philadelphia.
88 *Presence of a Weak Hemolysin in the Hook Worm and Its Relation to the Anemia of Uncinariasis. G. H. Whipple, Baltimore.
89 *Experimental Study of the Metabolism and Pathology of Delayed Chloroform Poisoning. J. Howland, New York, and A. N. Richards, Chicago.
90 Partial Progressive and Complete Occlusion of the Aorta and Other large Arteries in the Dog by Means of the Metal Band. W. S. Halsted, Baltimore.
91 *New and Simple Method for Serodiagnosis of Syphilis. H. Noguchi, New York.

82. **Active Immunity.**—Smith finds that in guinea-pigs an active immunity lasting for several years can be produced by the injection of toxin-antitoxin (diphtheria) mixtures which have no harmful effect. Mixtures that contain an excess of toxin produce more immunity, however, than the neutral mixture. The method invites tests in regard to its applicability to human beings, especially for the purpose of general protection.

84. **The Pancreas in Diabetes Mellitus.**—Cecil says that lesions of the pancreas occur in more than seven-eighths of all cases of diabetes mellitus, and in such cases the islands of Langerhans constantly appear changed, the lesions in some cases being limited to these structures. In half of those cases of diabetes in which the pancreas shows no changes, the size of the pancreas or the number of islands is less than normal.

88. **Hemolysin in the Hook Worm.**—Whipple finds that the hook worm contains a weak hemolytic agent, soluble in salt solution and present in all parts of the worm. This hemolysin is not specific, and Whipple regards it as unlikely that it has any relation to the anemia of uncinariasis.

89. **Delayed Chloroform Poisoning.**—Howland and Richards find that in dogs chloroform anesthesia lasting more than half an hour causes demonstrable fatty changes in the liver, first appearing in the intermediary zone. More prolonged and especially repeated anesthesia gives rise to necrosis, also beginning in the center and sometimes extending so that all the cells of the liver may become necrotic. There may be a more or less hemorrhagic extravasation. Calcium deposits surrounded by giant cells were observed in necrotic areas and constitute a new observation. Fat necrosis also occurred in one case in the omentum and mesentery. Congestion and areas of hemorrhage in the gastrointestinal tract and serous membranes are frequent. There is, then, great similarity between the experimental chloroform and those reported in fatal cases. The authors regard death as due to the presence of toxic substances of an unknown nature, which result from either abnormal metabolic processes or failure of the organism to neutralize toxic substances normally formed.

91. This paper will be discussed editorially.

Progressive Medicine, Philadelphia

March

92 Surgery of the Head, Neck and Thorax. C. H. Frazier, Philadelphia.
93 Infectious Diseases, Including Acute Rheumatism, Influenza, and Croupous Pneumonia. R. B. Preble, Chicago.
94 Diseases of Children. F. M. Crandall, New York.
95 Rhinology and Laryngology. D. B. Kyle, Philadelphia.
96 Otology. A. B. Duel, New York.

Maryland Medical Journal, Baltimore

March

97 "Hippocrates." (460-370 B. C.) H. M. Cohen, Baltimore.
98 Diseases of the Rectum. J. D. Reeder, Baltimore.
99 "How the Public Can Help the Medical Profession to Fight Disease." G. M. Linthicum, Baltimore.

Buffalo Medical Journal

March

100 The Tuberculosis Problem in Buffalo. J. H. Pryor, Buffalo, N. Y.
101 Retroversions of the Uterus. H. E. Hayd, Buffalo, N. Y.
102 The Surgical Idea in Obstetrics. W. M. Brown, Rochester, N. Y.
103 Gonorrheal Arthritis Treated with Antigonococcus Serum. T. W. Parsche, Chicago.

Louisville Journal of Medicine and Surgery

March

104 Significance of Precordial Pain. S. J. Meyers, Louisville.
105 *Surgical Treatment of Pruritus Ani. J. M. Mathews, Louisville.
106 Phlebitis Following Abdominal Operations (concluded). L. S. McMurtry, Louisville.

105. **Pruritus Ani.**—Mathews asserts that any long continued irritation will produce in the terminal nerves a pathologic condition that will resist all local treatment, and surgery is the only agent that can be used, looking to a radical cure. He describes a plastic operation suggested by Dr. Hamilton of Omaha, and quotes the opinion of Hanes that the nerve irritation incident to this disease is confined to the lower inch of rectum, and does not extend to the skin surrounding the anus. Hanes has operated on this theory in several cases, confining his operation to the inside of the gut and leaving the surrounding skin of the anus intact. To date the patients report absolute relief. Mathews describes the operation in one of Hanes' cases. Finally he shows the serious mental effects that occasionally follow on unrelieved pruritus ani.

Denver Medical Times and Utah Medical Journal

March

107 Venereal Diseases. W. H. Davis, Denver, Colo.
108 Addison's Disease of Sixteen Years' Duration. N. B. and E. Newcomer, Moorcroft, Wyo.
109 *Cysticercus Cellulosæ* and *Distoma Pulmonale* in Brain. E. W. Lazell, Denver, Colo.
110 Diffuse Cavernous Angioma of Upper Extremity, Complicated by Tuberculosis and Pulmonary Hemorrhage. H. S. Shafer, Denver.
111 The Hospital Idea. W. J. Fairfield, Delta, Colo.
112 Classification of Active Principles. J. Burke, Manitowoc, Wis
113 Alcohol as a Diet or Medicine. F. Clift, Provo, Utah.
114 Rheumatism in Children—Its Effects on After-Life and Usefulness: Prophylaxis and Treatment. E. H. Smith, Ogden, Utah.
115 *Manifestations of Rheumatism in Children. E. H. Smith, Ogden, Utah.

115. **Rheumatism in Children.**—Smith says that in the clinical study of rheumatism in children every general practitioner

has open before him an opportunity for original research. Mild and severe cases should be studied together. Statistics from hospitals are usually based on the study of severe and well-developed cases. Among the problems needing further investigation may be mentioned: The early symptoms of the rheumatic process, preceding the development of definite organic changes; the relation of digestive disorders to the development of rheumatism in the young; and the occurrence of acute exacerbations of the disease, rather than muscular exertion, as a cause of broken compensation. The importance of interrogating closely the functional capacity of the heart muscle, and of assigning to it its proper share of blame when symptoms referable to the heart occur, should not be lost sight of in the presence of more evident valvular defects. It is important to bear in mind that typical joint symptoms are infrequent in rheumatism as it occurs in children and that a heart lesion may be the first and for a time the only manifestation of rheumatism.

Medical Herald, St. Joseph, Mo.

March

116 Ambulatory Treatment of Fractures of the Thigh: A New Traction Apparatus for Applying Spica Casts and Various Orthopedic Manipulations. C. M. Echols, Milwaukee, Wis.
117 Recognition of Acute Intestinal Obstruction and the Importance of Immediate Operation. J. E. Summers, Omaha, Neb.
118 Leukemia, with Report of a Case. O. P. and H. P. Mills, Grant City, Mo.
119 Anesthesia in the Field. W. C. Abbott, Chicago.
120 A Test of Drug Action. J. Burke, Manitowoc, Wis.

New Orleans Medical and Surgical Journal

March

121 *Excision of the External Organs of Generation for Intractable Pruritus. E. S. Lewis, New Orleans.
122 Cutaneous Tuberculin Reaction and von Pirquet's Doctrine of Allergy. G. Dock, New Orleans.
123 *Plague from the Standpoint of the Sanitarian. J. H. White, U. S. Public Health and Marine-Hospital Service.
124 Final Results in 181 Operations for Inguinal and Femoral Hernia. Necessity for Resection of the Cremaster Muscle When Hypertrophied. J. M. Batchelor, New Orleans.
125 *A Radiologic Frame. A. Granger, New Orleans.
126 Jacksonian Epilepsy: Operation: Removal of Bone Spiculum from Fissure of Rolando. H. B. Gessner, New Orleans.
127 Intussusception, its Diagnosis and Treatment with Report of Two Cases. C. J. Gremillion, Alexandria, La.
128 Delayed Union, Non-Union, and Vicious Union in Fractures of the Leg, with Special Reference to the Volkmann Step Operation. C. W. Allen, New Orleans.
129 Why Louisiana Should Have a Free Sanitarium for the Treatment of the Poor Consumptive. L. Lazaro, St. Joseph.
130 Gleet—Its Causes. F. K. Chalaron, New Orleans.

121. **Intractable Pruritus.**—Lewis refers to the martyrdom caused by this disease, and the varied measures that have been introduced in the attempt to relieve it. He reports the case of a married woman of 35 in whom pruritus followed accidental abortion seven years ago. It grew more intense and with shorter intervals between paroxysms. She had been curetted four times, had used innumerable ointments, etc., dieted and taken medicated baths, and had had *x*-ray, galvanic and faradic treatment, and had been cauterized with silver nitrate and nitric acid. The labia were swollen, edematous, excoriated and cicatrized. The mere touch of the vulva provoked the itching. After three weeks of unavailing medical treatment, an operation was performed for removal of part of the mons veneris, the labia majora and minora, the clitoris and vestibule. He describes the operation. The patient recovered without any untoward symptoms and is now a happy woman.

123. **Plague.**—White summarizes his paper by urging the immediate killing of rats and the examination of specimens from many sections; the training of the people to uphold the health officers in time of danger; the critical watching of all glandular cases and pneumonia cases, as well as many nondescript or indeterminate fevers of severe type. A pathologist should be consulted in such cases.

125. **A Radiologic Frame.**—Granger describes, in an illustrated article, a radiologic frame, for which he claims the following advantages: Adaptation to fluoroscopic work; all kinds of skiagraphic work and radiotherapy; provision of a means for finding the normal ray and centering that ray; protection of patient and operator from unnecessary exposure to ray; a means to make all parts rigid, so that no ordinary movement of the patient can disturb the tube when once in position; fewness and simplicity of construction and controlling devices and adaptability to any size office and any make of operating table.

International Clinics, Philadelphia

Vol. I, Nineteenth Series, 1909

131 Hospital for Advanced Cases of Tuberculosis. L. F. Flick, Philadelphia.
132 Occupations and So-Called Rheumatic Pains. J. J. Walsh, New York.
133 Mikulicz's Disease and Allied Conditions. C. P. Howard, Baltimore.
134 Acute Tuberculous Rheumatism. A. Poncet and Dr. Lericke, Lyons, France.
135 Diagnosis of Gastric Dilatation. D. Sommerville, London, Eng.
136 Typhobacillosis. L. Landouzy, Paris, France.
137 Nerve Grafting in Facial Paralysis. L. Freeman, Denver.
138 Suppuration in Appendicitis. E. M. Corner, London, Eng.
139 Excision of the Hip Joint in Arthritis Deformans. F. A. Richardson, Boston.
140 Conditions Modifying Operative Work. A. D. Willmoth, Louisville.
141 Case of Acute Yellow Atrophy of the Liver and Pernicious Vomiting of Pregnancy. R. Jardine, Glasgow, Scotland.
142 Intestinal Obstruction During Pregnancy and the Puerperium. C. G. Cumston, Boston.
143 Rupture of Urethra; Acute Urinary Retention: Secondary Syphilis. O. H. Kelsall, Louisville, Ky.
144 Tuberculous Stricture of the Rectum, with Excision. S. T. Earle, Baltimore.
145 Etiology and Treatment of the Neurovascular Disturbances of the Nose: Hay Fever, Paroxysmal Sneezing and Recurrent Rhinorrhea. C. P. Grayson, Philadelphia.
146 Sporotrichosis. Drs. Duval and Vinard, Paris, France.
147 Absorption from the Peritoneal Cavity. W. G. MacCallum, Baltimore.

Journal Michigan State Medical Society, Detroit

February

148 Dr. William Pepper: An Appreciation. H. M. Rich, Detroit.
149 The Parathyroids. A. McLean, Detroit.
150 Tuberculosis in the United States Based on the Returns of the Twelfth Census—with Special Applications to the State of Michigan. J. W. Glover, Ann Arbor.
151 Needs of Michigan in the Fight Against Tuberculosis. A. S. Warthin, Ann Arbor.

Mississippi Medical Monthly, Vicksburg

March

152 Diphtheria. A. J. Jagoe, Clarksdale.
153 The Opsonic Index. W. Krauss, Memphis, Tenn.

West Virginia Medical Journal, Wheeling

March

154 Surgical Treatment of Gallstones. J. E. Cannaday, Charleston.
155 Hyperchlorhydria. J. E. Rader, Huntington.
156 Experiences of a Mine Physician. T. L. Nutter, Clarksburg.
157 Pneumonia. A. Bee, Cairo.
158 Toxic Amblyopia. J. M. Sites, Martinsburg.
159 New Method of Treating the Accessory Sinuses of the Nose. R. H. Powell, Grafton.

St. Paul Medical Journal

March

160 Medical History of Edgar Allan Poe. C. G. Cumston, Boston, Mass.
161 Cooperative Medical Defense—Its Present Status. F. Leavitt, St. Paul.
162 Treatment of Cancer of the Face, Head, and Neck. E. S. Judd, Rochester, Minn.
163 Does the Subject of Medical Ethics Receive Sufficient Attention in the Training of Our Medical Students? A. Henderson, Scanlon, Minn.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

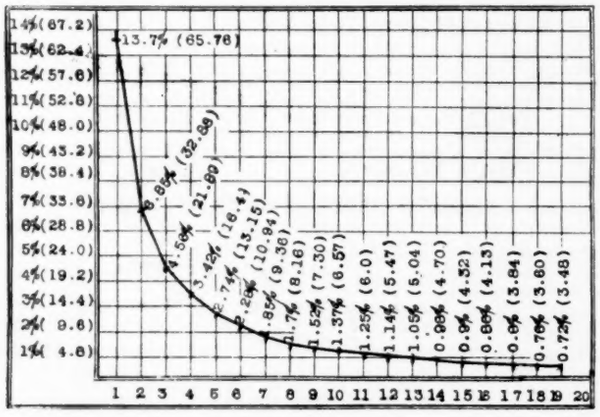
Lancet, London

March 6

1 Morphology and Variations of the Skull. W. Wright.
2 Four Cases of Volvulus Associated with Hernia. R. L. Knaggs.
3 Volvulus of the Entire Small Intestine, Cecum, and Ascending Colon; Operation and Recovery. W. Billington.
4 Two Cases of Volvulus Associated with Hernia. J. F. Dobson.
5 *Simple Method of Estimating Amount of Sugar in Glycosuric Urine. T. J. Walker.
6 *Investigation into the Clinical Significance of Albumosuria and Its Value in Diagnosis and Prognosis. J. Henderson.
7 Operations for Rectal Cancer. W. I. de C. Wheeler.
8 Advisability of Removing the Appendix at the Time of Opening the Appendicular Abscess. H. S. Clogg.

5. **Sugar Estimation.**—Walker describes a simple technic for using Fehling's method which he has long employed, and which enables him to determine in from three to six minutes

the quantity of sugar in the urine of a glycosuric patient. The apparatus consists of an ordinary test tube, a pipette—one drop measuring a minim—spirit lamp and minim measure. Walker had noted that the copper suboxid in testing with Fehling's solution is occasionally thrown down as a pure red, scarlet or crimson deposit, instead of the yellow, drab or orange precipitate that ordinarily occurs in the usual method of qualitative testing. Experiments showed him that by adding the urine drop by drop to boiling Fehling's solution, and boiling for a few seconds as each drop of urine was added, it was possible to obtain this scarlet precipitate constantly, and not occasionally; and further, that the blood-red precipitate indicated the complete reduction of the whole of the copper oxid to suboxid. By using a measured quantity of Fehling's solution, and calculating by the rule that "10 c.c. of the solution requires 50 mg. of glucose" to complete the suboxidation and to discharge the blue color, he was enabled to evolve the following quantitative test: Draw up into a graduated minim pipette any quantity of the urine to be tested. Boil 30 minims of Fehling's solution in a test tube and into it deliver the urine from the pipette minim by minim (boiling momentarily after each drop) until the blue color is discharged from the Fehling's solution, as indicated by the formation of a blood-red precipitate of copper suboxid. Note the number of minims of urine consumed, and, having found the corresponding figure below the chart, trace



The figures opposite the horizontal lines, as well as those on the curved line, indicate the percentage of sugar, and the corresponding number (figures in parentheses) of grains of sugar per fluid ounce. By "percentage" is understood "weight in volume"—i. e., grains per 100 minims. The figures below the vertical lines indicate the number of minims of urine consumed in discharging the blue color from 30 minims of Fehling's solution.

the vertical line upward until it meets the curve—the figures, there found, indicate the percentage of sugar and the number of grains to the fluid ounce in the urine. Inasmuch as, with a high percentage of sugar, the minim is too coarse a measure to indicate with sufficient precision the exact amount of sugar in the specimen examined, it is necessary, when the test with the natural undiluted urine indicates more than 2 per cent. of sugar, to repeat the test with one fluid dram of urine diluted with water to half a fluid ounce (a solution of 1 in 4)—test as directed above—multiply by 4 the number of grains per ounce indicated in the diluted urine, and the answer gives the amount in each ounce of the original specimen.

6. **Albumosuria.**—Henderson describes the history of the discovery of albumoses in urine. He says that permanent and abundant albumosuria of the Bence-Jones type may be regarded as almost pathognomonic of diffuse sarcomatous degeneration of bone marrow. It has been found chiefly in suppurative processes, acute infectious diseases, acute inflammations—especially pneumonia, empyema or large abscess; it has also been found in some cases of nephritis. For testing, he uses the biuret method, which he has found useful and satisfactory. He has records of observations in seventy-eight cases of pneumonia from which he concludes that the presence of albumosuria be regarded as unfavorable. It does not, however, furnish a reliable index of the extent of lung tissue involved. In bronchopneumonia his results were negative, and also in pneumothorax and bronchitis. In pleurisy with effusion only 1 patient out of 6 presented traces at intervals. Out of 3 patients with empyema, 2 showed albumosuria, which disappeared on the evacuation of the pus. A third case of undoubted empyema showed no albumose, which Anderson attributes to a thickened membrane impeding absorption. Two cases of phthisis out of 6 showed albumose. Both were fatal. As regards nephritis, Henderson draws the following deductions from observations on 80 cases:

1. In acute and subacute nephritis albumose is rarely present. When present it may be associated with uremia, and may herald its onset.
2. Albumosuria seems to indicate the presence of a chronic condition and it is most constantly present in the chronic parenchymatous variety.
3. The presence of albumosuria is often in such cases associated with, though it does not necessarily indicate, an early fatal issue.

In cardiac disease albumose was found in only 5 cases out of 50; 2 were ulcerative endocarditis, both fatal; the third, a fatal case of purulent pericarditis. In appendicitis albumose was found in those cases associated with abscess formation. It was not found in three cases of diabetes mellitus, but was present in one case in which, however, there was extensive excavation in both lungs, of which Henderson considers the albumose an indication. In the majority of cases with which he has dealt, the origin of the albumoses is probably pus, or at least inflammatory exudation. He considers albumosuria a more frequent condition than is generally supposed, and suggests testing for it as an ordinary routine measure, especially in pneumonia, in cases in which suppuration is suspected, or wherever excessive tissue waste is thought to be present.

British Medical Journal, London

March 6

9 *Clinical Facts Regarding Mammary Cancer. Sir H. C. Cameron.
10 *Natural Cure of Cancer. W. S. Handley.
11 *Treatment of Cancer by Potassium Bichromate. J. Fenwick.
12 Physiology of the Female Genital Organs: II. Menstruation. W. B. Bell and P. Hick.
13 Pleural Pains and Adhesions. J. T. MacLachlan.

9. **Mammary Cancer.**—Cameron says that the present clinical teaching in regard to cancer of the breast may be fairly summarized thus: The disease probably invades the body from without, and is at first strictly of local character and consequence. If removed at a very early stage—when the tumor is recent and still small—by an extensive operation definitely planned and carried out, cure may follow. Should no return of the disease occur within a period of a few years—say from three to five—this result may be considered as fairly assured. Cameron quotes from personal experience cases suggesting important lessons, notably that we do occasionally meet with cancer arising a second time in the same individual, the later manifestation having clearly no relation with the early one. He therefore insists on the unwisdom of regarding patients who have been operated on for mammary cancer as permanently cured because they remain free of any indication of recurrence for three, four or five years. He cites two cases in which the patients survived, respectively, for 22 and 33 years after a limited operation, not even the axilla being touched, in contradiction to the belief that no good is possible without extensive procedures. Many cases have convinced Cameron that a mammary cancer may produce extensive involvement of the lymphatics, even before it is of a size which renders it demonstrable. He also insists that besides operating early and widely in mammary tumor the surgeon's duty is equally to remove the entire mamma when operating on the axillary tumor which appears to be cancerous, or is subsequently proved to be cancerous by histologic examination, even though he can discover no tumor in the breast.

10. **Natural Cure of Cancer.**—Handley states as follows an unrecognized law of cancerous growth: Every aggregation of carcinoma cells has a definite life-cycle, and, after increasing in size for a varying period and at a varying rate, tends spontaneously to undergo degenerative and fibrotic changes. These changes extend from the center of the mass centrif-

ugally to its periphery, lead to its shrinking, and terminate in the replacement of the aggregation of cancer cells by a fibrous scar. In other words, the natural history of a cancer is one of centrifugal growth, followed by centrifugal death. He discusses the microscopic and the macroscopic evidence for the constancy of repair in carcinoma, the life cycle of a typical carcinoma (in six stages), and criticizes the subject of cancer therapeutics as commonly expressed. The literature of cancer therapeutics does not contain the record of a single fact which can not be paralleled in the histories of untreated patients. A study of the processes of natural cure in cancer absolutely destroys the clinical evidence in favor of trypsin, and all other internal medicaments at present known, except Coley's fluid in sarcoma, which seems to possess distinct value. The *x*-rays in accessible growths would promote the tendency to fibrosis, but a very thin layer of normal tissue is sufficient to protect cancer cells from their action. He discusses the secondary effects of the process of natural cure under the three heads: Contraction of the tissues around the carcinoma, cancer *en cuirasse*, and the "brawny arm" of breast cancer. For this latter condition he has devised the operation of lymphangioplasty (see the *Lancet*, March 14, 1908; abstracted in THE JOURNAL, April 11, 1908, p. 1224).

11. **Potassium Bichromate in Cancer.**—In a preliminary communication, Fenwick reports 19 cases of his own, and 3 of Dr. Pilkington of Philadelphia, successfully treated by the use of injections of potassium bichromate into the substance of the tumor.

Medical Press and Circular, London

March 3

14 Present Position of Intravenous Treatment. F. Mendel.
15 Medical Inspection of School Children. H. O. Pilkington.
16 Boots, and the Treatment of Corns and Plantar Warts. A. Eddowes.
17 The Spirillum of Vincent in Certain Pathologic Conditons of the Mouth and Throat. M. B. Arnold.
18 Use of Digitalis in Disorders of the Peripheral Circulation. J. T. MacLachlan.

Clinical Journal, London

March 3

19 Occurrence of Pulmonary Complications after Operation. C. M. Moullin.
20 *Cardiopathies of the Menopause. L. Williams.
21 Fatal Lymphocythemia (Lymphatic Leukemia) in a Boy of Six. L. Guthrie and W. D. E. Emery.

20. **Cardiopathies of the Menopause.**—Williams points out that menstruation is to be regarded, first as a hemorrhage, secondly as an excretion, and thirdly as the result of an internal secretion, one of whose effects is a partial vasodilatation, which is normally compensated for by a vasoconstriction elsewhere. At the menopause these activities cease, and the cardiovascular system is called on to adjust itself to the profound change which is thus effected. During the reproductive years, the systemic blood pressure is lowest (about 110 mm. Hg.) immediately after a period, gradually rising until immediately before the next period, when it reaches from 130 to 150 mm. Hg. With the establishment of the flow, the pressure gradually subsides. This process we know to be effected by the internal secretion of the ovary, supplemented and balanced by some other internal secretions, among them probably that of the thyroid. If, now, the vasodilating ovarian secretion gradually diminishes to the point of disappearance, while the balancing vasoconstrictor secretion, instead of diminishing, remains constant, it is obvious that a decided increase of general blood pressure must ensue. Add to this the absence of the pressure-relieving monthly hemorrhage and the retention of the vasoconstrictor toxins, and we have the conditions eminently favorable to a prolonged and threatening increase of pressure within the arteries. A large proportion of the troublesome symptoms of the menopause are accompanied by a decided rise in blood pressure. Manometric readings of 180 mm. are by no means rare, especially in obese women and when there is no relief by occasional flooding, but they are not invariable, and in some cases normal readings are found where a supernormal pressure is expected. In such cases, Henderson says, careful examination of the heart itself has never failed to reveal evidence of dilatation, so that the explanation of these cases would seem to be that the retained toxins had concentrated, so to speak, on the myocardium, which was consequently bending behind a more or less normal blood pressure. In other patients, the blood-pressure readings have been rather definitely subnormal. This is difficult to account for, except on the analogy of goutiness, in which the two extremes of blood pressure are also found. He concludes that in the manometer we have a method of distinguishing between two very similar classes of cases, and a means, therefore, of approaching their treatment with some degree of intelligence.

British Journal of Children's Diseases, London

February

22 *Myxedema in Childhood. R. Hutchinson.
23 Forms of Chronic Lung Disease in Childhood. W. H. M. Telling.
24 *Food of Elementary School Children. A. H. Gerrard.
25 Spermatic Cords in Children. E. M. Corner.
26 Distribution of Hernias in Children. E. M. Corner.
27 Angiolipoma. F. V. Milward.
28 Congenital Absence of the Sternal Portion of the Right Pectoralis Major Muscle. J. E. H. Sawyer.

22. **Myxedema in Childhood.**—Hutchinson reports cases, with illustrations, showing the remarkable improvement in children the subjects of juvenile or adolescent myxedema, under thyroid administration. He considers that the lesser degrees of thyroid insufficiency in childhood are apt to be overlooked.

24. This article appeared in the *Lancet*, Feb. 13, 1909.

Australasian Medical Gazette, Sydney

January

29 Lunacy Administration in Australia. E. Sinclair.
30 Hospital Abuse. J. L. Gibson.
31 Renal Surgery. A. Watson.
32 Gangrene of Breast in a Diabetic Patient. H. Swift.
33 Appendicitis (Suppurative), Operation, Subphrenic Abscess, Gangrenous Pneumonia. C. E. Corlette.
34 Poisoning by Inhalation of Fumes from Nitric Acid. P. M. Wood.
35 Pyosalpinx, with Unusual Position of Tube. G. H. Skinner.
36 Chorioepithelioma. R. H. Marten.
37 Acute Lymphatic Leukemia. G. A. Buchanan.

Journal of Tropical Medicine and Hygiene, London

February 15

38 A New Locality for the Congo Floor Maggot. A. Balfour.
39 Eclampsia, with Thirty Fits, extending over Three Days. A. L. Hoops.
40 The Hemogregarines of Snakes (continued). L. W. Sambon.
41 Plague Disinfection in India. F. E. Taylor.

Bulletin de l'Académie de Médecine, Paris

February 23, LXXIII, No. 8, pp. 235-260

42 *Index of Serum Refraction in Surgical Affections. (Indice de réfraction du sérum sanguin dans les affections chirurgicales.) Tuffier, Mauté and F.-Franck.
43 *Progressive Myopathic Atrophy. (Histoire d'un myopathique atrophique—du type-scapulo-huméral—suivi pendant près de trente ans.) L. Landouzy and L. Lortat-Jacob.

42. **Refraction Index of Serum in Surgical Affections.**—Tuffier and Mauté have been using this index as a means of diagnosis and prognosis in surgical affections. The index is low in all the surgical affections, suppuration, traumatism or cancer, and the method consequently has not much value in the diagnosis, but from the standpoint of the prognosis it is extremely important. As the blood serum keeps to a constant proportion of albumin with great tenacity, any change in the refraction index shows profound disturbance in the general condition. They consequently refuse to operate on patients with index lower than the normal if there is no edema, and they avoid general anesthesia as much as possible, reducing the trauma of the operation if emergency intervention is required. The index is always lower in bilateral kidney trouble, while it may be high in cachectic conditions when there is much vomiting or if diarrhea is draining the body of fluids.

43. **Progressive Myopathic Atrophy.**—Landouzy describes the final outcome of a case under observation from the age of 8 to 45, and gives illustrations of the early course and post-mortem findings. The patient's brother was affected in the same way, and these cases were the basis on which the scapulo-humeral, better known as the Landouzy-Dejerine, type was differentiated. The integrity of the peripheral and

central nervous system distinguishes this form of myopathic atrophy generally familial, without neuropathy, from the neuritic and myelopathic varieties of muscular atrophy. The flexor muscles were affected in the case described much less than the extensors. The case confirms anew the slow but inexorable evolution of the atrophy. The last stage was characterized by numerous retractions of muscles and tendons at different points, causing great deformity. One of the early, warning symptoms of this type is the atrophy of the muscles of the eyelids, the patient being unable to close his eyes.

Lyon Chirurgical, Lyons

March 1, No. 5, pp. 453-584

44 *Operations on the Stomach. (Six ans de chirurgie gastrique.) L. Tixier.
45 Duodenal Cancer. (la forme vatérienne du cancer duodénal.) E. Devic and P. Savy.
46 *Hysterectomy by Wertheim's Technic. (Réflexions sur 211 opérations pour cancer utérin.) A. Pollosson.
47 Errors Imputed to Radiography. T. Nogier.

44. **138 Operative Cases of Stenosis of the Pylorus.**—Tixier reviews six years of gastric surgery, comparing the clinical history, the details of the operation, the results at the time and during the years since, histologic examination of the parts removed and the postmortem reports. His experience includes 145 cases of stenosis, but in only 138 were all the above known. Among the conclusions from this experience are that the greater the stenosis the less the patients' resisting vitality, and that pylorectomy at one sitting is peculiarly deadly in such cases. On the other hand cancer of the prepyloric antrum, even when large, can be safely operated on at one sitting, if it has not yet given rise to much disturbance from stenosis. He always prefers to operate in two sittings when the cancer is primarily located at the pylorus. In 55 cases gastroenterostomy was the only operation that could be considered, and the survivals ranged from 15 days to 30 months. In 24 cases of cicatricial stenosis one patient was treated by an emergency jejunostomy for uncontrollable hemorrhage from the stomach. Eight months later he implanted the jejunostomy fistula in the posterior wall of the stomach, and the results were excellent. The gastroenterostomy opening healed in only one of the 98 cases in which it was done, this experience confirming the advantages of making the anastomosis as close as possible to the pylorus to benefit by the natural course of the peristaltic waves. In 12 patients with pyloric stenosis from gall-bladder disturbance, the stomach symptoms vanished at once after gastroenterostomy and a supplementary operation on the gall bladder.

46. **211 Operations for Uterine Cancer.**—Pollosson states that in 4 of the 211 cases the cancer of the cervix was associated with pregnancy. He accepts the indications as the same with and without pregnancy; it does not seem to enhance the gravity of the operation. In 6 cases, the cancer was primary in the vagina; 2 of these patients have been cured to date, one for two years. He advocates the abdominal route in such cases and also for cancer of the cervix in pregnant women. The details of the 211 cases are summarized. In several cases the lymph glands extirpated as a routine measure by the Wertheim technic were found already affected with cancerous degeneration, but there has been no recurrence since the operation.

Semaine Médicale, Paris

February 24, XXIX, No. 8, pp. 85-96

48 *Treatment of Postpartum Hemorrhage in Case of Placenta Prævia. R. de Bovis.

48. **Treatment of Postpartum Hemorrhage from Placenta Prævia.**—de Bovis reviews what has been written on this subject in various countries and the results of the various procedures proposed. The only measure, he declares, which is universally applicable and which does not expose to danger of infection is systematic compression of the aorta. Physicians should not shrink from applying it and midwives should be trained to do it properly. In order to be truly effective, the pulse in the femoral arteries must be arrested. In order to render the procedure less fatiguing, he advises getting up on a chair, unless the bed is very low, and thus applying the compression with the weight of the body rather than with the muscles of the forearm alone. By this means the compression can be kept up a long time without exhaustion. It has frequently been kept up for an hour, and one case is on record in which it was maintained for five hours. The compression should be applied near the umbilicus, generally a little above it, pressure being exerted with the slanting fingers, according to Seutin or Suber, or with the side of the closed fist, according to Le Page. The other hand bears down on the first with the weight of the body; the force of the compression is applied a little to the left of the spine. If long kept up, the compressing hand should be moved up or down a little so as not to press continuously in the same place. This procedure has the immense advantage of being within the reach of every one, so that the obstetrician can allow some one else to do it if he wishes to supplement it with other measures. But it should be borne in mind that this alone is sufficient, and that it can be kept up for an hour or two or even for five hours with the simple provision of moving the compressing hand up or down a little. If a reliable rubber tube is at hand it could be wound around the waist according to the Momburg technic, to allow temporary suspension of the compression. On account of the danger of ptosis of the liver or spleen and the friability of these organs at times, he regards this Momburg technic with some distrust. Among other methods of hemostasis, tamponing is the simplest, but there is danger of possible infection, and the difficulty of tamponing effectually. The lower segment of the uterus is a flabby sac, in these circumstances, and can be effectually tamponed only by flattening its walls against the bones of the pelvis. The vagina also has to be packed tight to prevent the tampon in the uterus from slipping. All this requires forceps and assistants and confidence in introducing instruments and fingers and uses up an incredible amount of gauze at a depth which may well make one shrink from attempting it unless perfectly familiar with the technic. Besides the doubtful asepsis, the results are generally disappointing. Suturing does no good unless for a tear in the cervix alone. Among the operative procedures, ligation of the uterine arteries is the most promising, especially when the cervix is seized with forceps as for vaginal hysterectomy. The cervix is drawn as far down and to the right (or left) as possible, and the forceps is applied in the lateral vault of the vagina. Instead, however, of clamping the base of the broad ligaments, as with the Henkel technic, he advises clamping the outer margin of the uterus. As the uterus is pulled toward one side, the forceps is applied almost directly across, from the back forward; one blade includes the anterior and the other the posterior aspect of the uterus. This simple modification of the Henkel technic avoids all possible injury of the ureter or bladder while the vessels are clamped through a considerable thickness of uterine tissue, thus avoiding possible injury of the uterine arteries. The results, he asserts, are as satisfactory as when the main trunk of the uterine artery is clamped—the aim is to arrest the circulation in the part of the uterus containing the placenta; it is not necessary to arrest it throughout the entire uterus. He does not approve of leaving these clamps in place for more than twelve hours, but the technic is so simple that he now applies it as a preventive measure after delivery in all cases in which the women have lost much blood.

Beiträge zur Klinik der Tuberkulose, Würzburg

XII, No. 1, pp. 1-190. Last indexed Jan. 16, p. 254

49 *Experimental Study of Consequences of Unilateral Pneumothorax. (Ueber Folgezustände des einseitigen Pneumothorax.) O. Bruns.
50 *Therapeutic Lung Collapse. (Erfahrungen und Ueberlegungen zur Lungenkollapstherapie.) L. Brauer.
51 *Explanation of Cutaneous and Ocular Tuberculin Reaction. (Erklärung der Tuberkulinempfindlichkeit.) A. Wolff-Eisner.
52 Opsonin Tests and Mixed Infection in Chronic Pulmonary Tuberculosis. (Opsoninuntersuchungen, betreffend die Bedeutung der Mischinfektion bei der chronischen Lungentuberkulose.) M. Wirths.
53 *The Ocular Tuberculin Reaction. (Ueber den diagnostischen und prognostischen Wert der Konjunktivalreaktion.) O. Ziegler.
54 *The Intracutaneous Tuberculin Test. (Ueber intrakutane Tuberkulinanwendung zu diagnostischen Zwecken.) P. H. Römer.

49. **Consequences of Unilateral Pneumothorax.**—The extensive experimental research reported by Bruns from Brauer's medical clinic at Marburg demonstrates that the pneumothorax not only promotes the healing of the tuberculous process but the atelectasis leads to the formation of connective tissue and thus aids in the encapsulation of the morbid process. His research has further confirmed the fact that anything which permanently interferes with the ventilation of the lungs entails extra work on the right heart and leads to hypertrophy of the right ventricle. In chronic bronchitis, pleurisy with adhesions, emphysema, kyphoscoliosis and pneumothorax the ventilation in the lung is hindered but the resulting disturbance is comparatively slight during abstention from muscular exercise. The blood vessels are compressed and the reduced suction and pumping action of the diaphragm and chest wall all contribute to entail extra work on the right heart. The left heart did not seem to be affected in his experiments. The findings in the rabbits and dogs and the controls are tabulated for comparison, and seventy articles on the subject are reviewed from the literature.

50. **"Lung Collapse Therapy."**—Brauer applies this term to measures which seek to immobilize the lung to promote the healing of a tuberculous process. In an illustrated monograph of more than a hundred pages, with a number of radiographs, he describes in detail his experiences with an operation undertaken to answer this purpose when the conditions rendered it impossible to induce artificially a therapeutic pneumothorax. He calls it "the extensive extrapleural thoracoplastic operation for lung collapse therapy." The aim is to place the diseased lung at rest, under a certain amount of compression. When pleural adhesions render a pneumothorax impossible, a plastic operation on the wall of the chest must be very extensive to accomplish the same results. The illustrations show how he realized this: The incision extends along the spine, low under the arm and up in front with resection of several ribs. Several patients in grave danger from a severe and progressive lung process were very much improved; others were not improved and some succumbed. He discusses how the technic can be perfected, his impressions being that this method of treatment has a future for this special class of cases.

51. **Cutaneous and Ocular Tuberculin Reactions.**—Wolff-Eisner supplements his monograph on this subject in the same journal one year ago by giving a number of colored plates, showing the exact aspect of the local reactions.

53. **Ocular Reaction.**—Ziegler declares that his experience with the ocular test on 600 patients has convinced him that it is useless for the early diagnosis and prognosis of pulmonary tuberculosis.

54. **Intracutaneous Tuberculin Test.**—Römer has modified for the clinic the method of intracutaneous application of tuberculin practiced by Lignières, of Buenos Aires, on cattle. The findings are identical with those of the subcutaneous test. The method is simple and harmless, and has been previously described by Mantoux as the "intradermoreaction." The findings are estimated by taking up a fold of the skin in a sliding gauge graduated in millimeters. The thickness in millimeters of the fold formed when an area of 5 cm. is taken up in the gauge shows the presence of the specific, intracutaneous hardening reaction to the injection of tuberculin. The technic is illustrated.

Deutsche medizinische Wochenschrift, Berlin

February 25, XXXV, No. 8, pp. 329-376

55 *Prophylaxis in Obstetrics. (Zur geburtshilflichen antiseptischen Prophylaxe.) H. Fritsch.
56 Further Development of Young Suprarenals Implanted in the Kidney. (Experimenteller Beitrag zur Lehre der von verlagerten Keimen ausgehenden Geschwülste.) H. Neuhauser.
57 *Sources of Error in Determining the Opsonic Index. (Fehlerquellen der Methode der Opsoninbestimmung nach Wright.) W. Beyer.
58 *Flushing and Suction in Treatment of Empyema of the Pleura. (Spüldrainage und Saugbehandlung des Pleuraempyems.) W. Pust.
59 Pathology of so-called Circumscribed Otogenous Meningitis. Engelhardt.
60 *Haeckel and Brass. F. Kelbel.

55. **Prophylaxis in Obstetrics.**—Fritsch does not agree with Krönig in several points, especially in allowing palpation through the rectum in the hands of the inexpert. He does not approve of allowing women to get up early after childbirth, nor of preliminary rinsing of the vagina except in difficult cases. He knows of two instances in which the obstetrician palpating through the rectum saw his finger emerge in the vulva. The vagina had been torn and the wall of the intestine had yielded to his exploring finger without his knowledge. In one of these cases the patient succumbed to sepsis. He bases his prognosis of the delivery on the exact determination of the position of the small fontanelle and the turning of the head under the influence of labor contractions. He remarks in conclusion that he has never encountered a case of fatal embolism in a healthy puerpera. All those with phlegmasia or thrombosis in the femoral vein had had fever before, and the puerperium was thus not normal. Thrombi in the legs are sometimes observed during pregnancy, and these would certainly not be improved by allowing the patient to get up early.

57. **Sources of Error in Determination of Opsonins.**—Beyer reports experiences with Wright's technic which show such wide differences in preparations from the same source that it is impossible to base far-reaching conclusions on them. It is his opinion that the method has so many possible sources of error and requires such pains and time that it should be regarded as not practicable for clinical purposes, in its present form at least.

58. **Drainage and Suction Treatment of Empyema of the Pleura.**—Pust proposes a simple modification of the present technics of draining empyema of the pleura. The principle is the same as when a counter opening is made in a raw egg. A curving trocar with a number of openings is introduced just below the upper limit of the empyema and another, curving upward, just above the lower limit. Each has a stop-cock and each is fastened in place with strips of adhesive plaster. Under control of the pulse the stop-cock is opened in the lower and then in the upper trocar. If the pus flows out readily, as much is allowed to escape as the patient can tolerate. The flow can be promoted by change of position or by connecting the upper trocar with an irrigator and rinsing out the pleural cavity with hot water or a solution of potassium permanganate. These rinsings are repeated once or twice a day, closing the stop-cocks in the interim at first. Later it may be an advantage to apply suction to one of the drains. This technic avoids the danger of thoracotomy and sudden pneumothorax. It does not require general anesthesia or assistance, but can be done under ethyl chlorid, and the patients can be up and about at once. It spares them the shock of an extensive operation just when they are least fitted to stand one.

60. See Berlin Letter, THE JOURNAL, March 20, page 975.

Deutsche Zeitschrift für Chirurgie, Leipsic

January, XCVIII, No. 1, pp. 1-111

61 *Surgical Treatment of Cancer of the Mouth. (Chirurgische Behandlung der Mundhöhlenkrebse.) P. Steiner.
62 *Surgical Treatment of Cancer of the Breast. (Chirurgische Behandlung des Brustdrüsenkrebses.) Id.
63 True Accessory Retropharyngeal Thyroid. (Struma retropharyngea accessoria vera.) Klaus.
64 New Method of Nephropexy. C. Beck (New York).
65 Snapping Hip Joint. (Schnappende Hüfte—Luxatio tractus cristo-femoralis.) z. Verth.
66 Primary Tuberculosis of Bursæ Inducing Sclerosis. (Die primär sklerosierende Tuberkulose der Schleimbeutel.) A. Reinhardt.
67 *Implantation of Thyroid Tissue in Three Cretins. (Implantation von Schilddrüsengewebe bei Kretinen.) E. Bircher.
68 Formation of Calculi in Urinary Passages after Fracture of Spine. (Zur Frage der Steinbildung in den Harnwegen nach Wirbelbrüchen.) Mingramm.
69 Isolated Injury of Hypoglossal Nerve. (Fall von isolierter Verletzung des Nervus hypoglossus.) A. Wertheim.
70 Complicated Firearm Abdominal Injury. (Schussverletzung des Leibes.) R. Reinecke.

61. **Cancer of the Mouth.**—Steiner states that 10.3 per cent. of the patients with cancer of the mouth, operated on at Dollinger's clinic at Budapest, have been cured with no recurrence

for more than three years. The record includes 61 cases of cancer of the cheek, the patients between 27 and 72, with 15.4 per cent. cured without recurrence for three years and 11.5 without recurrence for six years. Only 1 of the 8 patients with cancer of the gum was free from recurrence for seven years and only 1 of the 4 with cancer of palate or tonsil. An operation was attempted in only 25 of the 51 cases of cancer of the tongue and 69.2 per cent. died during the first year from recurrence. The predisposing influence of smoking and chewing tobacco, congenital anomalies, scars, psoriasis and leucoplakia was evidenced anew in this material. Only 3 per cent. of the patients were women. The various procedures followed are described in detail.

62. **Cancer of the Breast.**—Steiner reports from the same clinic 170 cases of cancer of the breast; 2.6 per cent. of the patients were men. Heredity was noted in 3 per cent. of the total cases, chronic inflammation in 6.6 per cent., trauma in 17 per cent., and congenital anomalies and Paget's disease in a number. Fully 21 per cent. of the patients have been cured for more than three years. Only 10 per cent. of those operated on by the Heidenhain technic passed five years without recurrence; the proportion is 27 per cent. after the Halsted-Kocher technic.

67. **Implantation of Thyroid Tissue.**—Bircher's experiences were not satisfactory; the thyroid tissue seems to be unable to resist absorption in time. The facts observed suggest that the connection between the thyroid and cretinism is more than mere defective or lacking functioning of the thyroid.

Medizinische Klinik, Berlin

February 21, V, No. 8, pp. 269-308

71 Chronic Non-Tuberculous Bronchial Affections. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose.) Posselt.
72 Traumatic Ossifying Inflammation of the Triceps Tendon. (Tendinitis ossificans traumatica der Trizepssehne.) P. Frangenheim.
73 Serotherapy of Meningitis. (Zur Behandlung der Meningitis epidemica mit Meningokokkenserum—Kolle-Wassermann.) F. Lange.
74 Treatment of Chronic Emphysema of Lung and of Asthma. O. Boelike.
75 *Action of Powerful Electric Current on Animal Body. (Wirkung des elektrischen Starkstromes auf den tierische Korper.) S. Jellinek.

75. **Treatment of Electric Accidents.**—Jellinek reviews his extensive experimental work to emphasize the importance of artificial respiration in case of electric accidents. He also warns against attempting to push with the foot the injured person away from the live wire, citing cases in which the current entered at the knee and passed into the ground with fatal results. In one case the soft parts were destroyed down to the bone and the patient survived only a few days. A horse was killed by a current of 220 volts merely passing through a wire around his left forefoot for 90 seconds.

Münchener medizinische Wochenschrift

February 23, LVI, No. 8, pp. 377-432

76 *Pneumococcus Influenza. H. Curschmann.
77 *Simultaneous and Irregular Action of Auricles of the Heart. (Ueber Synergie und Asynergie der Vorhöfe des menschlichen Herzens.) E. Rautenberg.
78 Bacteriology of Pseudodysentery in Sumatra. G. Baermann and W. Schüffner.
79 *Treatment of Constitutional Eczema in Children. (Therapie des konstitutionellen Kinderekzems.) Geisser.
80 *Clinical Determination of Blood in the Stools. (Zum klinischen Nachweis von Blut in den Fäzes.) T. Messerschmidt.
81 *Extrauterine Pregnancy. (Extrauteringravidität). Weisswange.
82 Accidental Illness from Mouse-Typhus Bacillus. (Einige Krankheitsfälle, hervorgerufen durch Mäusetyphusbazillen.) F. Fleischanderl.
83 *Tuberculosis as a Children's Disease. (Tuberkulose als Kinderkrankheit.) A. Schlossmann.

76. **Pneumococcus Influenza.**—Curschmann states that on bacteriologic examination of 49 cases of apparently typical influenza, the pneumococcus was isolated in 46 cases, and the influenza bacillus was never found. There was mixed infection in a few cases. In 20 of these cases inoculation of mice caused typical pneumococcus septicemia. In 77 out of 109 cases of a syndrome suggesting influenza, the symptoms and course were typical of true influenza.

77. **Simultaneous and Irregular Action of Auricles of the Heart.**—Rautenberg relates a number of clinical observations bearing on the question whether the auricles always work together or whether one may become paralyzed and the other work on independently. His study of sixty patients with heart trouble of this kind shows that isolated paralysis of one auricle may occur, but that it is extremely rare, much rarer than is generally accepted.

79. **Treatment of Constitutional Eczema.**—Geissler has been giving Finkelstein's method of treatment a trial and reports excellent results. The essence of this treatment is to exclude salt from the food, and the experiences related confirm the efficacy of this measure, even for older children. His patients were between 2 and 6 years old. In one case local measures and deprivation of salt arrested the eczema, which healed completely in three weeks, while a previous attack had resisted all measures for several months. In all such cases the eczema was of the "exudative diathesis" type. He declares that we are too apt to forget that this form of eczema is a constitutional anomaly and not amenable to local measures.

80. **Determination of Blood in the Stools.**—Messerschmidt states that the ordinary guaiac test is liable to give negative findings in some cases, even in the presence of blood, especially in elderly patients. This test therefore should not be regarded as absolutely reliable in practice. The findings should be accepted only when positive; when negative they should be supplemented by the benzidin test, which succeeds sometimes when the guaiac test fails. It is important for the patient to refrain from meat for a few days beforehand. He has modified the benzidin test and commends his technic as simple and thoroughly reliable: As much benzidin as can be taken up on the point of a knife is dissolved in 2 c.c. of glacial acetic acid. A piece of feces the size of a pea is stirred in 2 c.c. water to which a few drops of acetic acid have been added. To three drops of the resulting fluid, from 1 to 1.5 c.c. of a 3 per cent. solution of hydrogen dioxid is added, and from 1 to 2 c.c. of the benzidin acetic acid solution is stirred into the mixture. In the presence of blood the fluid turns green to dark blue in a few seconds. This technic does away with the necessity for boiling the fluid.

81. **Extrauterine Pregnancy.**—Weisswange affirms that it is as important to diagnose extrauterine pregnancy early as to recognize uterine cancer in its early stages. He reviews the symptoms which by their correlation allow differentiation, remarking that the main point is to bear the possibility of extrauterine pregnancy in mind. Pain is one of the most regular symptoms; it may be spasmodic or occasional or persisting. Another constant symptom is irregularity in the menses if menstruation continues. In addition to the minor signs of pregnancy and pain at a point suggesting hemorrhage in the ovary, any signs of secretion on the part of the breast are very significant. Palpation should be extremely cautious as rupture of the amniotic membranes has many times followed digital explorations. In difficult cases the findings on exploratory puncture through the vagina are instructive. The prognosis under all circumstances is grave, even if the pregnancy progresses undisturbed; at the best, a major operation is necessary at the close. He advocates treating extrauterine pregnancy in all cases from the same standpoint as a malignant growth. Even when the pregnancy is arrested and the products are reabsorbed under conservative treatment, adhesions necessarily follow, and chronic perimetritis is liable to be the outcome. The patient demands not only to be relieved from immediate but to be protected against possible disturbances later. If rupture has already occurred, it may be dangerous to send the patient to the hospital, and the only possibility for preventing the frequent fatal cases in young healthy women is to operate at once in the home. In 7 cases of tubal pregnancy 2 of the young women died on their way to the hospital after rupture; another died from hemorrhage and sepsis, the result of the use of the sound and curette. In 4 cases the diagnosis was not made at the right time and one of the women was treated erroneously and succumbed in spite of proper treat-

ment at last, which came too late. In the other cases the women recovered after being in grave danger for a long time.

83. **Tuberculosis as a Children's Disease.**—Schlossmann reaffirms that tuberculosis is acquired in childhood and should be prevented, treated and cured in childhood. But he adds that all children are not equally exposed. Among 105 children of the well-to-do in his charge, most of them suspected of tuberculosis, only 4 proved to be actually tuberculous, and 2 of these had been infected by their nurse, who was in an advanced stage of the disease. It is the children of the poor who are most liable to acquire tuberculosis, but even among them chronic pulmonary or simple processes frequently simulate tuberculosis. The diagnostic tuberculin test, he reiterates, is the only means to differentiate the tuberculous children and to allow appropriate treatment to be instituted in time.

Wiener klinische Wochenschrift

February 25, XXII, No. 8, pp. 257-292

84 Pathology and Clinical Diagnosis of Stenosis of Pulmonary Artery with Defects in the Septum. A. Posselt.
85 Hemolytic Autoinhibiting and Complement Properties of Human Serum. H. Hecht.
86 *Resuscitation after being Buried under Caving Sand. (Lebenserhaltung Verschütteter.) P. Silberstein.
87 Orthopedic Apparatus to Prevent Orthostatic Albuminuria from Lordosis. K. Preleitner.

86. **Resuscitation of Persons Who Have Been Buried Under Caving Sand, Etc.**—Silberstein calls attention to the fact that of all forms of suffocation that from being buried under caving sand or dirt or under an avalanche is most slowly fatal. This should be borne in mind, as sometimes no attempts at resuscitation are made, or are made half-heartedly, on account of the long time since the accident occurred, when in reality the victim is still capable of being revived. If the victim's arms are thrown over his face or in any other way a little air space is left around his mouth and nose, it is astonishing how long one can survive, and for how long resuscitation is still possible. In a number of cases on record new-born babes buried with infanticidal intent have been dug up alive after intervals up to eight hours. In all these cases the child had been wrapped in a cloth which left an air space and retained the air. Persons buried under snow may long survive as the snow melts away from around the face.

Zentralblatt für Chirurgie, Leipsic

February 27, XXXVI, No. 9, pp. 289-328

88 Disturbances in the Articulation of the Jaw Similar to Dislocation of the Meniscus in the Knee. (Discitis mandibularis.) Lanz.
89 *Operative Treatment of Ascites with Cirrhosis of the Liver. N. F. Bogojawlensky.
90 Advantages of Sterilization of Catgut in Vaselin. Lerat.

89. **Operative Treatment of Ascites with Cirrhosis of the Liver.**—The benefit of the Talma operation for Banti's disease is ascribed by Bogojawlensky to the laparotomy and the resulting hyperemia rather than to the omentopexy. The latter helps, but the hyperemia from the laparotomy is the main factor, as he has determined in the course of ten such cases. In operating he aims to induce hyperemia as much as possible and to remove all trace of the ascites. If the kidneys are functioning defectively, absorption of ascitic fluid left behind may prove fatal. He knows of two such deaths and warns that pronounced kidney disease contraindicates the operation and that in all cases the general anesthesia should be as slight as possible.

Zentralblatt für Gynäkologie, Leipsic

February 27, XXXIII, No. 9, pp. 297-328

91 Treatment of Suppurative Processes with Antiferment Serum. (Behandlung eitriger Prozesse mit antifermenthaltigem Serum.) A. Fuchs.
92 Scopolamin Does not Influence Pulse and Temperature. G. Blisnlansky.

Policlinico, Rome

February 21, XVI, Practical Section, No. 8, pp. 229-260

93 *Intravenous Injection of Bichlorid of Mercury in Acute Inflammatory Rheumatism. (Le iniezioni endovenose di sublimato corrosivo nella poliartrite reumatica.) O. Ortali.

February 28, No. 9, pp. 261-292

94 *Theobromin in Angina Pectoris. (Intorno l'angina pectoris e specialmente in rapporto alla sua cura.) E. Marchiafava

93. **Intravenous Mercurial Treatment in Acute Rheumatism.**—Ortali found that the patients were not improving under salicylates in the three cases reported, and he then made an intravenous injection of 5 mg. of mercuric chlorid, repeated on the two following days, with the rapid recovery of the patients. In one case he made five injections, using 10 mg. for the later ones. The results were excellent in all; the temperature and swellings subsided, the patients felt very much relieved, and the pains became attenuated. There were no by-effects in any instance.

94. **Angina Pectoris.**—Marchiafava has obtained good results from theobromin in angina pectoris. In one case a man of 46 had been suffering for two months from repeated attacks of angina pectoris, recurring so constantly that he did not dare to go to bed; the attacks only lasted a few minutes, but had already induced great debility and distress. Examination revealed insufficiency of the aortic valve. He was given 0.5 gm. (7.5 grains) of theobromin, and the dose was repeated at bedtime. There were no further attacks then or later. The treatment with theobromin must be long kept up, for months and years. It is effectual in other disturbances from arteriosclerosis as well. Two of his patients recently had vertigo and were afraid to venture into the street on foot, but have been free from the vertigo since they have commenced taking theobromin.

Riforma Medica, Naples

February 22, XXV, No. 8, pp. 197-224

95 *Tests of Kidney Functioning. (Della diagnosi funzionale del rene.) G. Zagari.

95. **Functional Tests of the Kidneys.**—Zagari has been applying a number of functional tests in several cases of kidney disease, with healthy persons as controls, and tabulates the findings. The test diet contained 5 gm. of salt; on this, in health, from 1 to 1.18 per cent. of sodium chlorid was eliminated, the elimination reaching its maximum the third or fourth hour, and nearly ceasing by the sixth hour. In nephritis, on the other hand, the maximum seldom reached 0.9 per cent. and never surpassed it; in most cases not going above 0.7 or 0.8. The total in 470 gm. of urine was 5.248 salt with one average healthy person, while in nephritis, with 375 gm. urine, only 2.735 salt was eliminated in the same period of six hours. He regards this sodium chlorid test as the easiest, simplest and most reliable means of estimating the functional capacity of the kidneys. Diuresis follows with healthy kidneys or in cases of compensated kidney disease, but there is no diuresis with nephritis. The elimination of salt begins much later and is much less pronounced with diseased kidneys, and this characteristic response to ingestion of salt may reveal incipient trouble not discoverable by any other means.

Hospitalstidende, Copenhagen

January 13, LII, No. 2, pp. 33-56

96 *Diagnosis of Erysipelas. Sørensen. Commenced in No. 1.

January 20, No. 3, pp. 57-88

97 *Serodiagnosis of Congenital Syphilis. (Wassermann-Reaktionen ved medfødt Syfilis.) O. Thomsen and H. Boas.

January 27, No. 4, pp. 89-120

98 *Lung Suction Mask in Pulmonary Tuberculosis. (Om Behandling af Lungetuberkulose med Blodoverfyldning af Lungevævet.) L. Melchior.

February 3, No. 5, pp. 121-152

99 Sympathetic Ophthalmia. (Nogle Betragtninger over den sympatiske Uveitis' Væsen i Anledning af et ejendommeligt Tilfælde.) C. F. Heerfodt. Commenced in No. 4.

February 10, No. 6, pp. 153-176

100 *Dislocation of the Semilunar Bone of the Wrist. (Luxatio ossis lunati dorsalis.) J. Ipsen.
101 *Periarthritis. P. Lorenzen. Commenced in No. 5.

96. **Diagnosis of Erysipelas.**—Sørensen reviews his experience with about a thousand cases of erysipelas, remarking that in over one-fourth of the number the affection was not recognized. He insists on the necessity for bearing in mind that pure erysipelas is a mild, serous and not a suppurative or destructive process, and that the patients should be protected against infection with other germs liable to superpose suppuration and necrosis on the erysipelatous process. The

patients should especially be kept from contact with phlegmons.

97. **Serodiagnosis of Congenital Syphilis.**—Thomsen and Boas applied the Wassermann test to 9 infants under 6 months old with unmistakable signs of congenital syphilis, and the response was positive in all. They also applied it in 4 young people between 13 and 20, with signs of inherited tardy syphilis, and the response was positive in all. In a third group the test was applied to 32 infants and their syphilitic mothers. In 3 of these cases the mothers showed no signs of syphilis but bore children with the taint. Sixteen of the 19 mothers of unmistakably syphilitic infants gave a positive response and 2 of the others had had a recent course of mercurial treatment; 9 of the 13 mothers with healthy children also reacted. The blood from the umbilical cord presented the typical reaction in one case in which the mother had been infected with syphilis twelve years before and had taken two courses of 48 and 33 inunctions and had not observed the slightest manifestation of the disease during the last ten or eleven years and bore no traces of the infection. She had borne four healthy children since her infection and this latest infant seemed to be healthy at birth but at the age of three weeks developed syphilids. The Wassermann reaction was particularly pronounced in the woman's blood in this case, suggesting possible reinfection, but nothing could be discovered to sustain this assumption. In every case in which anatomic changes were found in the umbilical cord, the children developed signs of syphilis sooner or later. Examination of the cord or placenta is thus shown to be a useful supplementary test for inherited syphilis. A positive response to the Wassermann test in the mother reduces the probability of the child being sound. The reaction seems to be constant in every case of clinical manifestations of syphilis in infants or older children. The authors believe that it is possible for the substances inducing the reaction to pass through the placenta into the fetus and permit a positive reaction when in reality the child is free from the disease. Every mother of a child giving a positive response to the test should be regarded as syphilitic, although free from signs of the infection. Examination of the placenta blood from numbers of healthy children never once gave a positive response.

98. **Suction Mask in Treatment of Pulmonary Tuberculosis.**—Melchior reports that only one of the eleven consumptives treated with the suction mask seemed to be much benefited by it. The patients were all in the second or third stage of the disease; the number of red corpuscles seemed to be increased, yet the hemoglobin percentage did not keep pace with it. The vital capacity seemed also to be increased, transiently at least. The patient who derived the most benefit was the only one in whom the disease had not reached the second stage.

100. **Dislocation of the Semilunar Bone.**—Ipsen's patient was a young man with dislocation resulting from an accident. The disturbances were so severe that he was unable to use his hand and, after failure of persevering conservative measures, Ipsen removed the semilunar bone as the dislocation constantly recurred after reduction. This put an end to the disturbances at once without impairment of function.

101. **Periarthritis.**—Lorenzen discusses the various types of periarthritis, remarking that no joint affection heals without leaving some trace of its presence in the surrounding tissues. These various forms of periarthritis frequently are disregarded or explained as growing pains. He describes in detail some typical cases of periarthritis involving the shoulder, knee, back of the neck or foot, and remarks that the local measures must be supplemented by general treatment to be really effectual. Whether water, heat, electricity or mechanical devices should be used in local treatment depends on the special skill of the physician in each line and the patient's confidence in the special treatment or combination of measures. Operative intervention is rarely necessary and should be reserved for the severest cases. His experience has shown that excellent and durable results can be obtained without it.

Hygiea, Stockholm

January, LXXI, No. 1, pp. 1-96

102 *Operability of Tumors in the Posterior Cranial Fossa. (I hvilken grad äro svulster i fossa cranii posterior tillgängliga för operation ?) K. Dahlgren.

103 Treatment of Gonorrhea. (Ett bidrag till behandlingen af gonorré i lifmodern.) C. Cronquist.

102. **Operability of Tumors in Posterior Cranial Fossa.**—Dahlgren concludes from his study of the literature and personal experience with four cases that the prospects of complete recovery are very small with tumors at the base of the brain, but that transient or durable improvement has been observed so often after operative treatment that an attempt is amply justified in this otherwise hopeless condition. He reviews a number of minor points which facilitate the diagnosis, urging the publication of series of cases from the same clinic or from the same operator as much more instructive than compilation of single cases from various quarters which scarcely permit of comparison.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

FRÜHDIAGNOSE UND TUBERKULOSE-IMMUNITÄT, unter Berücksichtigung der Neuesten Forschungen: Konjunktival und Kutan-Reaktion, Opsonine, etc., Speziell der Therapie und Prognose der Tuberkulose. Von A. Wolff-Eisner, Berlin, Arzt f. innere Krankheiten u. Bakteriologie des städt. allgemeinen Krankenhauses Friedrichshain-Berlin. Edition 2. Paper. Pp. 378, with illustrations. Price, 12 marks. Würzburg: Curt Kabitzsch (A. Stuber's Verlag), 1909.

A SYSTEM OF MEDICINE. Vol. 4. Parts 1 and 2. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Cloth. Price, $3 per volume. New York: The Macmillan Co., 1908.

A FIRST STUDY OF THE INHERITANCE OF VISION AND OF THE RELATIVE INFLUENCE OF HEREDITY AND ENVIRONMENT ON SIGHT. Eugenics Laboratory Memoirs V. By Amy Barrington, of the Galton Eugenics Laboratory, and Karl Pearson, F.R.S. Paper. Pp. 61. Price, 4 shillings. London: Dulau & Co., 37 Soho Sq. W., 1909.

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